The continuation of CoEvolution Quarterly and Whole Earth Software Catalog

WHOLE EARTH Review

LS AND IDEAS FOR THE COMPUTER AGE

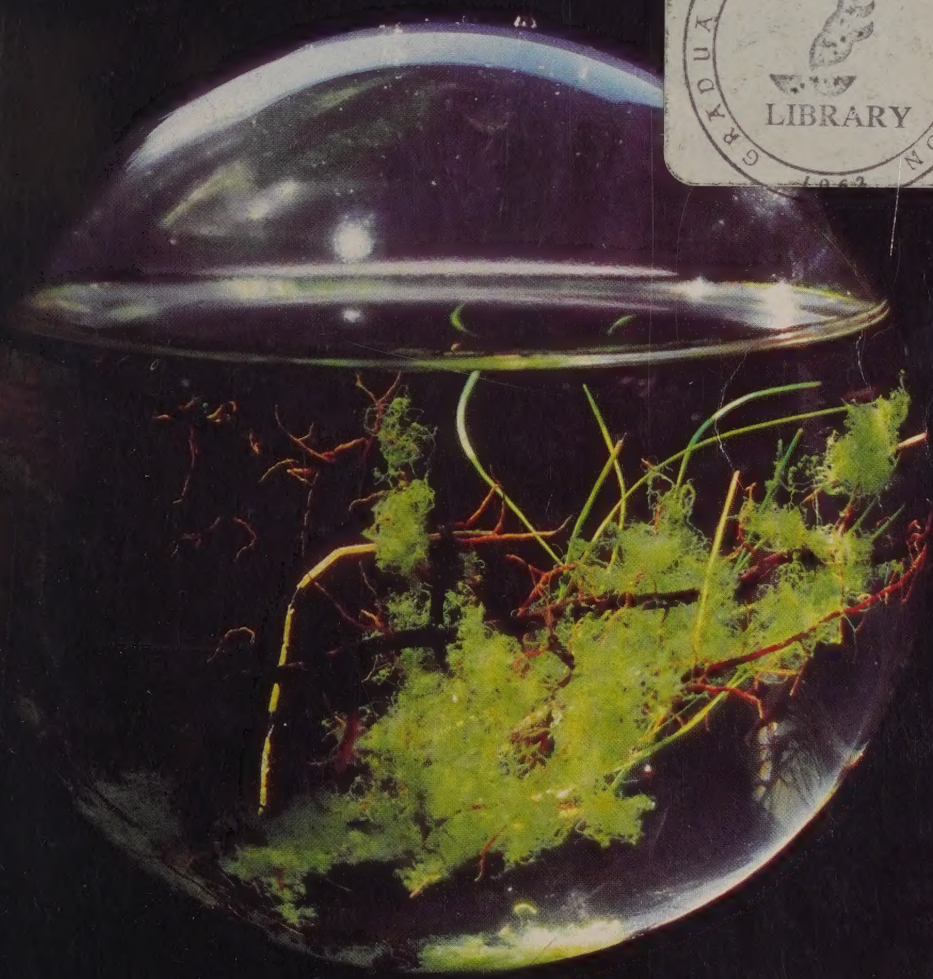
No. 46 MAY 1985 $3 (No Advertising)

LEVEL ONE

APR 18 1985

GRADUATE THEOLOGICAL UNION LIBRARY 1963

LIBRARY SERIALS DEPT
2400 RIDGE ROAD
BERKELEY CA 94709



ECOSPHERE:

A SEALED GLOBE THAT LIVES FOREVER, P. 28

ANARCHY THAT WORKS: ITALY

WILL BAKER DEEPER IN NICARAGUA

THE HACKERS CONFERENCE

DEATH. SOMETHING.

CONFESSIONS OF A VULTURE

Gustave Doré

by Charles Pappas

An otherwise pleasant Charles Pappas insists on discussing hurt, badness, evil, and our taboo against discussing these. His "Bad Seeds" (CQ Summer 1984, p. 60) dragged us over to face pure nastiness, and said we were responsible. Now he's hovering over the dead. In between journeys to war-torn countries he's a counselor at a group home for disabled adults in LaCrosse, Wisconsin. —*Kevin Kelly*

Dear Stewart,

Before and after I traveled to Northern Ireland I read *CQ's* write-ups on death. Plenty more to add.

Autopsies (*CQ*, Spring 1984, p. 4) and New Orleans funerals (*CQ*, Fall 1984, p. 38) tell you a lot about death — death and its attendants. So does war; I've had a look-see at two. I learned there is little difference between my writing about war and my ministering to the dying in a nursing home: I attend what's left over. Tolstoy looked at the misery around himself and asked, "What then must we do?" He should have known better, the old geezer. Whether the bodies had bullets or IVs in them, the reader-over-my-shoulder kept track of what it all meant. I wanted to *know*. I wanted to *see*.

Camaraderie, intense experiences, the passion to witness . . . these are dependable explanations for a curiosity about war,

There is a connection between what we do with all kinds of death and how we live. It's worth investigating.

about death, but they're just chips and stubs. I was too young for Vietnam so I got my eyefucks another way. I mean scribbling in El Salvador and Ulster. Political subterfuge aroused me, as did a hankering to see X: you know, thingumabobs that are best interred and doused with salt.

War is trepanned with death. (A reporter I knew in El Salvador abandoned her morning jogs because of all the corpses in the street.) The nursing home I worked in was too. In both places death infused life with high adventure. Maybe this is tantamount to the Rich Kid who thinks the Poor have an exclusive modem link to Reality, but there you are.

Whenever I touched a corpse I thought it would come alive suddenly. In El Salvador assassinations and intrigue were dime-a-dozen; you pick up your room phone and some lowbrow on the other end clicks a gun just to let you know he's thinking of you. And in the Ivory Coast of Africa: "One drum was hung with jawbones, another hung with cervelles, the brains of enemies, wrapped up in skins." No way can you read that and not embark on a Heart-of-Darkness schtick.

I gave myself over to events in war and at the Home. Out of their havoc came a spooky kind of know-how. I emptied their catheter bags and watched Alzheimer's or rectal cancer evaporate them pound by pound. Death became the Great Leveler. What was left before death came was memory, and the stories that uncurled like ribbon out of memory. It's no one's fault, it's just biology.

I've been face to face with a beery Salvadoran official who was proud of his responsibility for a metric bonanza of death in his country. A barker for the Provos in Northern Ireland talked to me about murder in language so robotic as to reduce death to the emotional status of box scores. One evening I went to a Salvadoran killing ground (Puerta del Diablo) to see *something*. Well, *something* did not materialize. And when I shut the eyes of a corpse — they bugged out like two eggs, looking up at God — I felt as I did in the other cases, that I'd almost peeked at X because I'd seen how death uses us while we try to use it.

I do these things for reasons not always sanitary. William Broyles noted that in war zones "Those who were misfits and failures may find themselves touched with fire." Bang right. Jobs and relationships spatter at home. A jazzy line from *Dog Soldiers* ought to be my logo: "I waited all my life to fuck up like this." Neurons just seem to fire better under jeopardy. The way you get to thinking is, once you've found the Dark Equator you'll be able to wend your way back to normality. Love. An even keel.

"I am become death, the shatterer of worlds." A power like that has the gravity of awe. The old I knew stretched their luck as far and as tight as it would go. Nobody dies without love, they figured. They also reckoned they had a humongous collateral of good intentions that would get them the brass ring, love. No way. Death would burn them pure and hollow. Meanwhile they had to be content to wail for a body to clasp to.

Next it's Afghanistan for me. To crib from another writer, it's a region of "negative spaces," chocked with all kinds of singularities. I want to know my fears for what they are. Maybe *something* will be killing time there. Maybe I will find my way back to Standard Operating Procedure.

I am not trying to put a spin on death a la Kubler-Ross. Death is no endorphin high. But I know there is a connection between what we do with all kinds of death and how we live. It's worth investigating. And in the process you may do some good and get home before dark. There's a lesson there, somewhere. ■

WHOLE EARTH Review

Number 46 **FEATURES** *May 1985*

1 **Death. Something.**
by Charles Pappas
Confessions of a vulture, concerning his fascination with death.

4 **Izum in Rinkydinkaragua**
by Will Baker
The ruinous politics of belief in Nicaragua.

21 **Cartoon History of the United States**
by Larry Gonick

28 **The Ecosphere**
by Peter Warshall
Introducing an Einsteinian ecology inside the small watershed of a sealed glass globe.

36 **Anarchy that Works**
by Szanto
When designing a fast-changing world, a little chaos helps.

44 **"Keep Designing"**
edited by Stewart Brand
How the information economy is being created and shaped by the Hacker Ethic.

58 **Doomed**
collected by Paul Sieveking and Robert J. M. Rickard

60 **MoTzuing**
by Robert Fuller
Notes on discussions regarding nuclear winter and space bridges with Chinese and Soviet scientists.

74 **Kommi-Punks**
by Tom Starr and Norbert Haase
Punk rock behind the Iron Curtain in East Germany.

DEPARTMENTS/REVIEWS

WHOLE SYSTEMS

20 Second View
☐ What Shall We Do Without Us?

25 The Historian's Handbook
☐ Nearby History ☐ Practicing History

26 Deep Ecology ☐ The Satellite Experimenter's Handbook

27 Space Calendar

LAND USE

32 Gnu's Letter ☐ Katuah
☐ How to Cope With the Corps
☐ Scientific Event Alert Network Bulletin

33 Probe Post ☐ The Creekwalker's Journal

LAND USE *continued*

34 Meeting the Expectations of the Land
☐ Beyond Geography

35 Identifying Diseases of Vegetables
☐ Herbal Bounty!

SMALL BUSINESS

40 Starting on a Shoestring ☐ Successful Small Business Management

41 In Business for Yourself ☐ Setting Up Shop

42 How to Start and Operate a Mail-Order Business ☐ Straight Talk About Small Business

43 Filofax ☐ The General Ledger Software Consultant

Whole Earth Review ☐ *Issue No. 46 ☐ April 1, 1985 (ISSN 0749 -5056) (USPS 077-150). Published bimonthly by POINT, a California nonprofit corporation. Editorial office: 27 Gate Five Road, Sausalito, CA 94965. Subscriptions: $18 per year; single copies: $3. Inquire for international air rates. Second-class postage paid at Sausalito, California, and at additional mailing offices. Claims for missing issues will not be honored later than six months after publication. Back issues are available on microfilm and as xerographic reprints from University Microfilms International, Serials Bid Coordinator, 300 Zeeb Road, Ann Arbor, MI 48106.* Whole Earth Review *is indexed by Access: The Supplementary Index to Periodicals, New Periodicals Index, Alternative Press Index, Magazine Index, Consumers Index, and Humanities Index. Recent* WER *mailing list renters: Scientific American, The Cathedral of St. John the Divine, Amnesty International, College of Saint Benedict, American Civil Liberties Union, ACLU of Northern California, Natural Resources Defense Council, Tarrytown Conference Center, Greenpeace/Save the Seals, Co-op America, Institute for the Study of Human Knowledge, American Friends Service Committee, Worldwatch Institute, Good Money.*

Copyright © **1985 by POINT.** *All rights reserved. Subscription circulation: 37,410. Newsstand circulation: 60,077.*

POSTMASTER: Send address changes to Whole Earth Review, *Box 27956, San Diego, CA 92128.*

Cover: *Ecosphere #2155, nicknamed "Gaia Jr." by the production staff while it hung around the offices waiting to be photographed. The shrimp proved to be snootily aloof, not heeding nudges by sound or light (what else can you do to get them front and center?). Don Ryan, our can-do photographer, eventually beckoned a pink one into the spotlight, shown on the cover just lower-left of dead center.* —*Kevin Kelly*

COMMUNICATIONS

56 Powers of the Press ☐ AudioCraft

57 Rock & Roll Confidential ☐ Simplicity Cardboard Dulcimers ☐ McSpadden Mountain Dulcimers

59 The Vanishing Hitchhiker ☐ The Choking Doberman ☐ Rumor!

66 The Drama of the Soviet 1960s

NOMADICS

67 SaddlePack ☐ Lowe Alpine Systems ☐ Free Campgrounds

68 China ☐ International Workcamp Directory

69 Undercurrent ☐ Alaska-Yukon Handbook

SOFT TECHNOLOGY

70 Counterpoint Opus II Tandem ☐ Midvale Books ☐ Pocket Survival Tool ☐ Radial Reaction Turbine

71 Alternative Light Styles ☐ A Catalog of Independent Power Systems and Components

SOFT TECHNOLOGY *continued*

72 Timber Frame Construction ☐ Haywire Klamper ☐ Architect's Drawing Kit

73 Masterpiece Tools ☐ Wood Finisher's Handbook

COMMUNITY

78 Ylem ☐ We Will Not Be Disappeared!

79 Kaleidoscope ☐ Yellow Silk

80 Good Movies *by Sheila Benson*

BACKSCATTER

104 Echoes from readers back to *Whole Earth Review*

GATE FIVE ROAD

109 Gossip

110 *WER* Update ☐ "Or Whole Earth Access" ☐ "Or Computer Literacy" ☐ Subscriptions ☐ Masthead

111 Whole Earth Threefold Pyramid Scheme ☐ Financial Report ☐ Thank You

112 How to submit things to *Whole Earth Review*

WHOLE EARTH SOFTWARE CATALOG
VERSION 1.3

HARDWARE
81

MAGAZINES
83 DTACK Grounded ☐ COMPUTE!'s Gazette

PLAYING
84 GATO ☐ UNIVERSE

85 Book of Adventure Games

WRITING
86 WORDSTAR 2000 PLUS

87 Improve Your Writing with Word Processing

ANALYZING
88 SUPERCALC 3

ORGANIZING
89 File Managers for the Commodore 64

90 File Managers for the PC

ACCOUNTING
92 PC/TAXCUT

MANAGING
93 MACPROJECT

MANAGING *continued*
94 SUPERPROJECT ☐ TIME LINE

95 PROPERTY MANAGEMENT

DRAWING
96

TELECOMMUNICATING
96 FIDO ☐ Magazine ASAP

PROGRAMMING
98 Running MS-DOS ☐ All About Applewriter IIe ☐ Enhancing Your Apple II (Vol. 1) ☐ Assembly Cookbook for the Apple II/IIe

99 BETTERBASIC

LEARNING
100 VOYAGE OF THE MIMI

ETC.
102 JAMES F. FIXX: THE RUNNING PROGRAM ☐ THE BOOK OF CHANGE: I CHING

103 SKYTRAVEL: WINDOW ON OUR GALAXY ☐ COINS

IZUM IN RINKYDINKARAGUA

by Will Baker

DURING THE TEN DAYS I WAS IN THIS LITTLE COUNTRY THERE were more than 300 seismic shocks (at least two of them quite brisk), a bantam-weight tornado, torrential rains, and a couple of spectacular electrical storms. In between these events I sweltered in a boring, soporific heat. I welcomed this weather at first because I was undertaking my first job ever as a foreign correspondent, and I knew I should endure hardship and danger. But eventually I came to respect the rain,

". . . ism in Nicaragua."

thunder, and shivering earth because they were all I could be sure of.

I was, you see, on a fact-finding mission for what a lady in the U.N. office in Tegucigalpa kept calling the *CoEvaluation Quarterly.* Besides the meteorological data above, I found the following "facts" to coevaluate:

The Nicaraguan workers and peasants, the "true" Catholic Church, the army, the poets, artists, and intellectuals — nearly everybody but the disaffected bourgeoisie — support the Frente Sandinista de Liberación Nacional;

Somoza is still alive, living in secret splendor;

the government injects powerful stimulants into its troops in order to make them loco fighters;

the *contras* have a fanatical ideological wing which practices ritual rape and murder of captured civilians, chanting such charming litanies as "We are the Tigers, and Tigers drink the blood of the people";

most people do not support the FSLN;

the U.S. should invade immediately, for Nicaragua is a ripe and rotting fruit;

a plane loaded with cocaine crashed in Florida and papers in the wreckage linked it to Tomás Borge, a member of the ruling junta;

the Miskito Indians want only peace, as they are already integrated socially and economically, without a distinct tribal culture or system of beliefs;

the Miskito Indians are a separate race with a separate identity and will fight to the last warrior for their lands;

the country is infested with Cubans;

there are hardly any Cubans in the country;

the *yanqui* is the enemy of humanity (this is a line in the national anthem);

Nicaragua must look to the U.S. for its salvation;

the government is introducing an ever-harsher brand of Marxism — indoctrinating children in godless ideology, confiscating more property, building a network of informers, secret police, and torture chambers;

the government is liberalizing its institutions, reducing censorship, allowing other parties access to the media, soliciting constructive criticism;

McDonald's imports Nicaraguan beef.

Among all these contradictions it is comforting to think that millions of American junk food addicts may be carrying around a few molecules of Central American protein, because the influence the other way is certainly immense. I would venture to assert that Pepsi-Cola runs in the veins of every Nicaraguan over the age of two. The sports page of both government and opposition newspapers is devoted to breathless accounts of the struggle for the American and National League pennants. You hear Charley Pride, Kenny Rogers, the Bee Gees, Linda Ronstadt, and Clash all around you. Anybody with a tiny surplus of cordobas wants to change them for dollars at the black market rate of 250 for one — ten times the official rate — in order to obtain such vital strategic materials as Brut aftershave.

These are trivial influences, of course, and we must face the big, ominous one. Misery — so common we can just call it *the* misery — is on everybody's mind, and everybody believes the misery is largely a product of the war, and everybody thinks there wouldn't be much of a war without U.S. support for the *contras.* I'm not so sure, but it doesn't really matter because there is at least universal agreement on the misery. Everybody I spoke to — Sandinistas, clandestine Somocistas, Miskito separatists, shopkeepers, street

---

With a certain amount of familial concern we sent novelist Will Baker, our very first foreign correspondent, to Nicaragua to see if he could discern Truth there. He sent us some of the best writing he's done, and some of the best we've printed, which ran last issue as "Divided They Fall." The cost of that Truth was an uncomfortable, unsettled soul for two weeks. Further Truth, the kind that keeps you from sleeping at night, forced out of him a second, unassigned piece, which gently, wisely untidies the big picture.

The accompanying paintings stem from a similar but separate journey, the Artists' Tour of Nicaragua, 16 artists on an independent cultural exchange. Beryl Landau painted the 5-foot-square acrylic (left) which stares into the rim of live Masay Volcano, a national park near the capital, Managua. In the distant right is the perfect volcano Momotombo, a Nicaraguan emblem. The group's journals and more paintings are available in Inside the Volcano *($5 postpaid from 551 63rd St., Oakland, CA 94609).* —Kevin Kelly

vendors, doctors, lawyers, carpenters, cobblers, and waiters — said at some point: "You see, we are a very poor country."

You can read that word "poor" but you don't know what these people are talking about. You can go there and hear it, *pais pobre,* but you still won't understand, because you'll have your dollars with you. You'll find the kindly white-haired grandfather whose coffee plantation was expropriated and who takes revenge on the State by buying those dollars, and instantly you'll be rich, so you can roll into the decent hotel with clean sheets, hot shower, and a copy of *Newsweek.* And anyway you'll know that this isn't your life, you're going to get out.

If you are really curious you may take a jammed, rattletrap public bus at a cost of one penny and there you may get a whiff, get a glimpse of something in the faces around you, sullen with exhaustion and despair; and then in the middle of a humid, tropical night, the frogs hammering hollowly outside the hotel window, you may wake up with a queasy feeling that in some dream too deep to call back you took a small, delicate thing — a flower or a child or a piece of priceless old glass — and under your heel . . .

This is an accurate feeling, countrymen. Let me explain. For the past three years our President has asked our Congress to give the CIA around $50 million to maintain an overt war against the "Marxist dictatorship" in Nicaragua. Congress has done so. Each year they took from us taxpayers about thirty cents apiece. With these pennies our President made certain that every Nicaraguan — man, woman, and child — would suffer, and suffer mightily, all year long. We stopped buying their sugar, blockaded or inhibited the shipment of basic machinery and spare parts, and cut off credit from major international banking institutions. Then we provided airplanes, weapons, radios, and gunboats to the guerillas who ambush trucks, destroy military posts or fuel depots

All paintings from the Artists' Tour of Nicaragua.

"I painted this watercolor on a hillside in Matagalpa where coffee trees cover the landscape. I had come here the night before to play my flute when I heard shouts through a megaphone . . . something about a young man killed. He was 25 and died after fighting at the border for only a few months. They were going to have a procession. We all started down this hillside and by the time we got to the man's house there were 150 marchers with candles and banners."
—Lucinda Lynch

or health centers or sawmills, and harry the government's lines of communication and supply.

What is the effect of this penny-ante mischief? Our President tells us he is "destabilizing" this tiny nation, for it is "exporting revolution." Destabilization may be described in the plain English words of an 89-year-old Moravian Bishop from Puerto Cabezas: "The economy is shot to pieces."

A comment heard everywhere is *No hay nada.* A pause, and then maybe repetition: *nada nada nada* NADA. The rhetorical emphasis is proportionate to the bitterness of the speaker, and means no rice, no beans, no chicken, no sugar, no shoes, no cooking oil, no tires, no batteries, no toilet paper, no aspirin, no shaving lotion, no toothpaste, and most of all and most fundamentally no money.

I speak thus in hyperbole in order to convey to fellow gringos some hint of the anguish of common life here. Actually, if there were none of the things mentioned above, the situation would be easier to tolerate. Utter, universal want would be a kind of brotherhood, a common lifeboat. What tortures people is the occasional, tantalizing appearance of goods: food staples (rice, sugar, meat) and gasoline are rationed, though delivery is so sporadic that many families have to ride a week on an empty tank and bare cupboard; philanthropic foreigners deliver the occasional handout, creating a little stir of employment; the yanquis are cruising through — seminary students, old lefties, college kids for peace — sowing a few dollars and packs of gum or cigarettes and ballpoint pens. But there is never enough for a steady diet, a solid vehicle under one's hand, a promise of putting a little aside.

This — like everything I have to say here — is not entirely true. There are exceptions. I met one my second morning in Managua, after the first earthquake, a Saturday morning. The Honduran airline had lost all my bags, and I faced a meeting at the International Press Office in which I would have to beg for credentials. Unshaven, wearing the same clothes I put on in California, I had a single copy of *CoEvaluation Quarterly* to prove my claim to be a legitimate journalist.

Entering the little coffee shop off the hotel lobby, I was accosted by the only other occupant, a big man with a loud voice. I was a yanqui, clearly, and he was there-

UTTER, universal want would be a kind of brotherhood, a common lifeboat. What tortures people is the occasional, tantalizing appearance of goods.

• ◄ • • ◄ □ ► • • ► •

fore glad to see me. He rose — the only Nicaraguan I had seen over six feet two — and formally shook hands. California? Ah, he had himself studied at Stanford University. We must chat. I had only a little time, I said, before an appointment at the press office. He waved a hand. No matter, he would send me in his car.

He was wearing Buddy Holly glasses and a white *guayabera* open at his manly throat, a tall glass of ice and clear liquid before him. I must join him in a drink. Caña, pure. It was nine-thirty in the morning. No matter. Did I not see how things were? Of course I must have. Everyone could see. Things were falling apart. For him, personally, it was not a question of money. He was a brain surgeon. He had plenty. He had studied in Paris, in California. But this country! Mother of God. Anyone could see.

He would have another drink. I did not have to worry, the car would take me. He had to tell me some things. Somoza. It was true Somoza was a prick. But this? What is this now? This is nothing. *Nada.* He would tell me in confidence. Before Stanford, before Paris, when he was a young man, he had been a founder — did I understand, a *founder?* — of the Communist Party in Nicaragua. He had believed things could be changed that way. Now — now he was as I saw him. This would be his weekend, there was nothing else to do. Caña to get one by.

He would tell me something further, something important. He had studied in Paris with the best in the world. California was beautiful. There were opportunities everywhere for a brain surgeon. But he would not leave. He loved his country. He gripped my wrist, and behind the thick lenses of his spectacles his eyes were magnified and glistening with tears. That was why he had to drink here in the morning, and all weekend. He loved this goddamned country.

I did have the appointment, I mentioned, but he held on to my wrist. Listen. He leaned closer. One thing you must tell them, when you go back. Observe, make notes, consider, and so forth, but here is the point: the U.S. must invade, *now!* His voice shook. This was painful, he loved his country, but there was no other way. Invade! I had struggled to my feet, notebook and *CQ* under arm. These were things to think about, sometime, in a larger view, but I was here only to consider the Miskito problem. The Miskito problem will take care of itself, he said. Nobody else can stand to live over there, anyway. He strode to open the door ahead of me and boomed a command. The man leaning on the fender of the maroon Mercedes came alert.

This gentleman must go to the International Press Office, and promptly. He clapped me on the shoulder. Come back when you are through. We will have another drink, talk about California. Now don't forget. You must tell them. I got in the Mercedes, with a wave which I hoped did not represent full commitment, and because of the air-conditioning, arrived at the Press Office blue-jawed and rumpled, but very cool.

So I got the credentials, with the help of a very nice young lady who used to be a California high school girl. Her mother was Nicaraguan, and on a return visit in 1978 she was radicalized by Somoza's Guardsmen, who caught her and some other young people coming out of a political meeting, broke her nose and dumped her into the back of a truck. She knew what was next, and managed to throw herself out of the speeding vehicle. They didn't bother to stop, and another dedicated Sandinista was born.

With my new press card, she said, I would be eligible to attend a major event scheduled for the morrow. It was Armed Forces Day, and Minister of Defense Humberto Ortega would be delivering an address. I might find it very instructive. Transportation was no problem. There would be special buses for the press.

So the first instructive point was that the Armed Forces of the Vanguard of the Revolution, just like the brain surgeons, have modern vehicles, freshly painted and in good repair, with full tanks of gasoline. I rode in the bus with the *Atlantic Monthly, Newsweek,* the *Miami Herald,* and CBS, escorted by alert young soldiers and soldierettes. I confessed my affiliation with no expectation that my colleagues would recognize the magazine; but the CBS cameraman thought for a moment, snapped his fingers, and said sure, he'd seen it once in a health food store. A pause. Well, I said, they wanted to know how the organic Nicaraguan was getting on. A longer pause. I tried to explain how jet lag, my lost luggage, lack of experience, and so forth could affect the sense of humor. They went back to their stories about journalism under fire, what the ambassador had said in private, how much stringers could get paid. Three hundred a day was deemed a fair wage. You hear that, Stewart?

There were more modern, gassed-up vehicles at the military base where the ceremony was held. An amazing number of them: trucks, armored personnel carriers, landing craft, light and heavy tanks, anti-aircraft, caissons, howitzers

— enough to fill a runway. There was a speaker's rostrum behind which loomed a giant poster of Sandino with his little one-sided smile, and a roped-off gallery for the handful of diplomats and officers' wives. The press, mostly Enemies of Humanity (American), were the only other audience.

A big brass band played. Honored peasants and workers were escorted to the rostrum. The Comandantes arrived. Field artillery bellowed a deafening salute. A portly gentleman in a sombrero delivered an impassioned harangue against imperialismo. A hundred and sixty clones in white gloves, spats, and rifles performed complicated synchronous movements, aggressive and patriotic. Sandino lives, they shouted. Another harangue on repelling the Enemies of Humanity. A plane flew over and five men jumped out, firing away with their submachine guns on the way down. Then all the vehicles roared by the rostrum, moving in neat straight lines. Many salutes. An incalculable number of gallons of gasoline.

I scurried around with the other Enemies, snapping pictures of the most important people and most deadly devices. We had wondered aloud why the press office had urged us so fervently to attend, and when Comandante Ortega reached the peroration of his speech we found out. He verified the downing of an alien helicopter in Nicaraguan territory, and the recovery from the flames of two North American corpses. The press, he instructed, was to convey the proof of this claim to the American public, along with his government's guarantee to deliver the remains to the families.

After the ceremonies we were hauled to a beach park and treated to an excellent dinner, choice of steak or broiled fish, with all the beer or rum we wanted to drink. There it was further revealed that we would be allowed to proceed to the morgue, view the bodies, take photos. *Newsweek* thought this was a little bush, but the *Miami Herald* approved. Humanitarian protocol should be founded on ocular proof.

After the big meal, three beers, and a stroll on the beach, I rode back to Managua in a mixed crowd. Thoughtful journalists and happy Sandinistas. They had loosened their ties and gun belts and were passing around some flasks of rum. A good day. Ortega had shown yanqui imperialismo that they had some hardware to welcome any invaders.

The Revolution was alive and prepared to kick.

The Lieutenant in charge was telling jokes about *La Prensa,* the opposition newspaper. Across the aisle a female member of the vanguard had climbed into the lap of a young journalist and was showing him an imperialismo well beyond geo-politics. Nobody was paying much attention to the suburbs outside, the crazy little shacks of salvaged boards and rusted metal roofing, the ancient Toyotas and Volvos and Plymouths belching and gasping along, and — always — those sullen, haunted faces.

I decided then I did not want to go see the fried gringos. A person can stand only so much incongruity in a day. How the Nicaraguans stand it, I don't know, but they are showing the strain. My companion at the feast was a cool, intent Taiwanese, twenty-six years old. He told me he was walking in the market in Managua when an old man began suddenly shouting one word at the top of his lungs. The word was *Hambre!* Hunger. I would have had difficulty with that. Not the Taiwanese. His country — that staunch perennial enemy of communism — was sending Nicaragua three million dollars worth of non-military goods.

The chief incongruity was of course the tremendous expense of this army's celebration of itself, a celebration not to inspire the public it is allegedly protecting but to make sure that our little band would carry to the world a certain message: a substantial, dedicated, and deadly army

RINKYDINK: any small enterprise or operation whose continued functioning astonishes the rudest cynic.

stands ready to repel any invader. From one perspective this is true; here were the rumbling tanks and synchronous clones to prove it. In another view, the Revolution was using up all its morale and substance — everything *worth* defending — to keep this formidable force shined up, fueled, and running smoothly.

But behind the runway full of men and machines is the same old rinkydink nation: taxis falling apart, potholes in the streets, shoes worn through at the toes, brown sugar and margarine, state-produced cigarettes called "filtros" that have a little cork band at one tip, but no filter inside, and people who look very tired and very disgusted at the prospect of another five years of heroic sacrifice. They know there isn't enough to go around, and they know who's getting most of what there is. They even understand that it has to be so: the yanquis, after all, have invaded before. Several times. And perhaps they appreciate that the Comandantes do not seem to go in for haciendas and limousines and imported women, but devote the budget to offices and plans and armament. Still, the incongruities pinch, and noble postures rapidly grow wearisome. A hot wind was blowing over the tarmac on that glorious Army Day, and I caught some of the officers' wives yawn-

"We were going to visit coffee plantations, but our guide discovered an 'acto,' an important event, deep in the mountains. It was a land reform presentation which I later painted in oils. Land titles are being handed out to landless campesinos, along with documents which forgive bank debts. Music is blaring and long speeches are given. The campesinos are spellbound; the crowd cheers."
—Anthony Holdsworth

ing behind their programs, got close enough to the brave defenders to see some glazed eyes and robot applause.

I should perhaps explain this term rinkydink. Where I come from it is usually applied to a piece of farm or logging equipment that has survived well beyond its natural life through 1) the ingenious application of baling wire, scavenged parts, plywood, and shock cords; 2) the removal of all extraneous items such as mufflers, windshield wipers, paint, and bumpers; and 3) some measure of spit, profanity, and miraculous luck. By extension the word can fit any small enterprise or operation whose continued functioning astonishes the rudest cynic. There is usually a connotation of mingled compassion and contempt, a fine American ambiguity: we believe in the heaviest grades of power, wealth, and success, but there is an undertow of humor and affection for the marginal Quixotes who never quite make it; most of us spend a lifetime gyrating between the ritzy and the rinkydink, and see the wisdom of paying homage to both.

I use the term here to keep awareness of the misery at a distance, for otherwise the mind drifts into a paralyzing gloom, and to serve as a constant reminder of the absurd disproportion between Nicaragua and the mighty juggernaut of Destabilization. To get a good grasp of this disproportion, let us consider the situation in Zelaya Norte, where the war is the hottest, where the threatened invasion would surely take place.

This province is the largest in the country, about a quarter of the total land area of Nicaragua and nearly two-thirds the size of Vermont. Most of Zelaya is trackless, malarial swamp and jungle bush. Only 90,000 souls live there, less than the population of the rural county in California where I live. There are no railroads, a few dirt tracks for roads, one stoplight (in the capital city), and only two airstrips and two hospitals (total number of available beds: 144). Three small mines (gold and silver) operate at half-capacity, and eight sawmills cut the grand total of 73,500 board-feet a day — about what you would get from two dozen good-sized western Ponderosa.

Several ranchers in my county (Yolo) run more cattle than you can find in all of Zelaya Norte (about 400 head), and some of the bigger farmers raise more corn and rice. We have probably thirty times as many cars and trucks, even including the Sandinista army's motor pool. As I calculate mobility and firepower, Yolo County could borrow a couple of jets, a dozen light machine guns, and a few mortars from the California National Guard and successfully invade Zelaya on its own. There are enough bulldozers, jeeps, four-wheel-drive pickups, deer rifles, shotguns, and revolvers around here to overwhelm anything I saw on the Atlantic coast. Most of my neighbors have at least one of each of these items.

If there was unexpected resistance, we could sell just one season's tomato crop and pay for a small fleet of armored vehicles and a respectable battery of field artillery. No need, in short, for our President to get the whole country in a flap over the dire threat of communism in Nicaragua. If Yolo County can handle Zelaya, the Sacramento Valley ought to be strong enough to dismantle the whole Sandinista circus. If Cuba made any noise, we could unleash the Los Angeles Survivalists on them.

But this comparison is abstract and diffuse. We return to the facts. A good example of rinkydink in Nicaragua would be the national airline service to the regional capitol, Puerto Cabezas. *Aeronica* sends the plane daily, the same plane, every day but Sunday. Sometimes it lands and sometimes, rain interfering, it turns around and flies back to Managua. No runway lights or radar, you see. Also no fire trucks or ambulance. The flight itself — now here is a tonic for jaded nerves! The craft is a DC-6, surely one of the first off the assembly line. It has bare wooden floors, upon which are mounted grooved runners so the seats can slide in or out. On Thursdays they are out and the plane hauls cargo.

There is even a stewardess, with too much lipstick and a skirt of

uneven hem, who gestures at the emergency exit over the wings. All around her the rivets and struts are bare even of paint, and in fact quite a few of the rivets are missing too. One out of five, by my count. Nevertheless, during the one-hour flight this brave young lady hands each and every passenger a small cup of punch and a half of a bologna sandwich with the crust cut off as a mark of elegance.

IN PUERTO CABEZAS I am finally in the theater of war, in Mousquitia, at the headquarters of the state apparatus for security and defense. My letter of permission for travel in the troubled zone is confiscated by a young man who folds it twice and sticks it in his shirt pocket. He sends me into the baggage room to find my own luggage, ahead of everyone else, and then doesn't check any of it. Oh no, he waves, just take it and go. I apologize to the other seventy-five people in line, explaining that I am a foreigner and just following instructions. They smile encouragingly and tell me not to fight good luck.

There is a lone taxi, a battered Toyota, whose driver speaks English. He is booked already, he thinks, but a package of Marlboro Lights turns him around. On the single paved road into town — also the single paved road in the whole province — we discuss the Misery, until I am deposited before a graphic illustration of this topic, one of the two available hotels. It is a ramshackle wooden structure, like everything else in town except the hospital and the Catholic church. The bed is a two-inch-thick cotton pad on iron springs. The showers in the communal bathroom are hundred-gallon drums with a tin pail beside them. I should ask for a sheet and blanket, the taxi driver instructs me as he is leaving. They have to give it to you.

AFTER a frank discussion of the circulation figures of *CoEvaluation*, he perceives that this, too, is a rinkydink affair.

If I want to visit the Miskito Indian villages nearby, he says, he can drop around tomorrow and take me. With luck, by morning my letter of permission will have made its way from the soldier's shirt pocket to the office of immigration. I do want to talk to those villagers, I tell him. That's my job here. Meet the people. There's another package of Marlboros in it for you.

IMMIGRATION does indeed have the letter the next day, but the phone to Government House — which we can see clearly a block away — isn't working and for permission absolute and final there must be a check with security. I offer to approach security face to face, and after another try at the phone the soldier agrees sulkily. It was working this morning, he says, as if it were my fault. Ask for Perez.

Cesar Perez is a small, emaciated man running on an inner methedrine of high responsibility. He is initially gruff, but after a frank discussion of my motives and the circulation figures of *CoEvaluation*, he perceives that from his point of view this, too, is a rinkydink affair. We joke around carefully, and he proposes to assign me an interpreter and jeep so that I can visit the Miskito nearby. I had requested permission to travel to the resettlement camps in the interior of the province, but he says a recent ambush has made travel that way too risky. Dead, I gather, I would be a definite liability, and he is not about to let me go very far from town. He is quite frank about the range and strength of the guerillas, about how difficult it is to get very much done when most of the countryside is not secure.

The interpreter is available, the jeep not, so I volunteer my waiting taxi. I am introduced to Myrna Taylor, a plump, anxious young Miskito woman in a very clean, carefully pressed blouse and skirt. Any more questions, Perez says with a parting handshake, she will answer them. The taxi driver, I detect, has reservations about this new arrangement but restricts himself to silent commentary: the eyebrow, the cough, the look in the rearview mirror. On the way to Lamlaya, a waterfront village barely out of town, we get acquainted. Myrna speaks excellent English, and went to the university in Managua. There she knew the guys who are now leading the Miskito guerillas, Fagoth and Rivera. They were all friends, all young and fired up and into the revolution. She wonders now, with a small, sad smile, if they would shoot her.

An odd situation, we agree. We run over the obvious complexities. The Sandinistas made a mistake coming down too hard on the Miskito leaders. On the other hand, the CIA and the Guardsmen were lurking over the border, ready to exploit any weakness. When the attacks started, the government had to clear out the whole Rio Coco region. But it was a terrible shock for people to see their homes destroyed, to be hurried to a camp in a strange place. The rebels took advantage of the

shock of this displacement, made new recruits and contacts. Now they lay ambushes everywhere with the guns the Reagan forces have given them, so of course the government is nervous and the people unhappy. The new programs for crops and housing and industry haven't had time and attention enough to get started. People just have to hold on, keep trying, hope. The taxi driver looks out the window.

At Lamlaya we pull up on a muddy bank above the slack water of an estuary. Dilapidated fishing boats are moored at a small pier, or hauled up in drydock at a permanent list. The little bare-board shacks here and there are built on stilts, away from the wandering pigs and dogs. Children begin to collect when we get out of the cab. I have brought a stack of cheap notebooks, pencils, and pens for this situation, and as soon as they grasp the giveaway they are on these supplies like a school of piranhas. I try to reward the shy but there is covert elbow and hip action, massive interference. A couple of adults appear to restore order, men who have been gathered around a boat.

When the school supplies are gone the children disperse and I follow the men back to the boat. They switch from Miskito to English for my benefit. It is not Myrna's school English but a Caribbean version like that I have heard in the West Indies. We kid around for a little while, but I keep trying to nudge the discussion onto more substantial ground. How about the fishing? How are the catches and prices running, under the new system? Not much fishing these days. How come? The stocky man measuring something on the propeller shaft says I just repair the boats, sir, so I don't know. No fish? Oh lots of fish, somebody says. But no fishing. They laugh. Well, how come? No gas? No bait? How's the price? Price pretty low, mon, but that isn't it. Finally somebody says it, spits the word out as if it tasted bad. Permission. That's what they don't have. Permission.

Myrna breaks in to say that the contras have gunboats that run along the coast. She looks glum. The taxi driver is examining a rust spot on his fender. A new-

"Along the Atlantic coast near Bluefields there are few roads to the towns. You have to get to a village like this one by boat. The culture here is Caribbean black, Caribbean-English-speaking. Animals wander around untied — pigs, parrots, goats. Not far from this scene I drew they have plans for the Dry Canal — a freight railroad across the isthmus to divert the overloaded traffic on the Panama Canal." —*Anthony Holdsworth*

You hear bap! bap! on de door an' here dey come takin' you away, mon, an' nobody fin' you den. Or mebe dey fin' you wid de bottom an' no top.

comer comes down the mudbank, a tall skinny man wearing a baseball cap and a sport shirt with no buttons, so we can see the ribs quite clearly under his dark hide. He starts joking with the others, but I go doggedly back to the fish question. Permission is necessary, because of the guerillas? Written permission? The mechanic under the boat begins packing up his tools. Look, I say, I just want to know what's going on here. How it works. The truth.

It's very hard, Myrna says. She looks close to tears. The government is trying to make things better, but this war — everybody is sick of it. So right *here,* I go on, this close to town, this is a danger zone? Even with the soldiers? The skinny black man laughs, wide open, so I can see he is missing some front teeth. It will be dark before long, Myrna says, moving toward the taxi, we ought to be going. You mean there is a curfew?

No. No curfew. But you better off at home in night times, somebody says. The black man is moving around at the edge of our little circle, flapping his elbows like a big crow. Used to be night time was fishing time, everybody going out, the taxi driver observes. So you need permission now, for night fishing? Nobody even *ask,* mon. Nobody so foolish. I got to go, the mechanic says. Good-bye, sir. Why foolish? Maybe you go out, not come back, one man says. You watch out, another cuts in, talking about people dying. We going to die anyway, the black man says, so I going to tell dis fella. And he does, still hopping and flapping. This is his speech:

Oh you don' go 'roun' here, boy, in de night time. Dey take you down right now, pow! *Dey don' know no mon here — now I know Buddy, he know me, know Willyam, ever'body know ever'body — but de fellows coming from Managua in here dey don' know. Dey shoot you firs', fin' out who dat mon be after.*

I don' talk about de governmen', say one t'ing 'bout dat, but I tell you people go hongry, mon. Dey cannot make de livin' here. You get one hun'red cordoba for workin' all day, you know dat? Eight hour. What you gon' buy widdat, huh? What? Dis shirt he wearin' here, how much you goin' pay for dat? Seven, eight hun'red cordoba. You workin' all week *for de one shirt, mon. You see? You see dat?*

You talk about it, dey lis'nin' mon. Dey go 'roun' askin' who dat fellow doin' de talkin'. Somebody say oh he mus' be contra, mon. Dey say you mus' be wid dem. Mebe some time you home, nine o'clock in de night, Jesus Cris' you hear bap! bap! on de door an' here dey come takin' you away, mon, an' nobody fin' you den. Or mebe dey fin' you wid de bottom an' no top. Das de way it is, *I tellin' you. We takin' de pressure mon. Dey say de revolution gonna put de pressure. We gettin' de pressure, mon, oh you bet we gettin' it — no speed, but we sure gettin' de pressure. I tellin' you de* trut', *mon!*

It is pretty quiet in the cab on the way back to town. Myrna tries to explain about the fear and haste two years ago when they were almost sure the yanquis were coming, and about the continuing risk — Cabezas surviving on single thin lines of water and power, the occasional boat, the shabby old DC-6. But she feels terrible, I think, about the fishing restrictions, about all the Miskito who want to go home to the Rio Coco, and about riding around in a clean blouse in a jeep with a gringo blunt and dumb as a post. But what else could she do? She is a symbol, a Miskito with a position in the government, and she went through a revolution to get there. She is smart, sensitive, ready to work, but what a job they have given her! Show this guy around, admit the misery — no one can escape the misery — but prevent him from twisting Sandinismo into pathetic rinky-dinkery, or worse.

We bid each other a strained farewell while our driver examines the ceiling of his cab. In the morning, Myrna will see to the jeep, she says, so we won't need his services. Come back the day after, I tell him, and head into the hotel. On the front steps I pass the owner, a pretty, dark-haired woman, and remind her about the sheet and blanket. Talk to the chambermaid, she says over her shoulder. She flounces on toward a white jeep at the curb. I can see nothing in its dark interior but the glowing end of a cigarette.

AT GOVERNMENT House the next day Myrna has a vehicle and a driver, a muscular, silent young man in fatigues and opaque sunglasses. Another journalist has arrived and wants to tag along. He reports for Switzerland's chief communist newspaper, an organ of understandably modest size. He is very young and very serious, under the combined weight of his telephoto lenses and dialectical materialism. His name is Pascal.

We ride for perhaps an hour over dirt roads that wind through the coastal swamps and sandy hills. The pines are scattered and half-

"The large central market in Leon dates from the 1600s, when it was rebuilt after being buried by lava. I painted this scene in the shade of a church. As is usual in the Spanish plan, the market is adjacent to the cathedral where fruit vendors can sell their wares. Leon was a major center of Frente insurrection during the revolution." —*Anthony Holdsworth*

grown, the soil between them pocked and ravined with erosion. The Enemies of Humanity cut everything they could reach decades ago, and not much has struggled back. The government is of course trying to restore the forests, Myrna says, but . . . I nod, not listening. The government-is-trying-but is wearing a groove in my brain.

We have to detour around a washout and arrive late in Camla, just as school is breaking for lunch. We are particularly interested in the school, because the new bilingual education program is one of the Sandinistas' main moves to win lasting support from the Miskito and Sumu communities. The government is proud of its literacy campaign generally; it is one promise they seem to have kept without significant compromise, probably because education is an area in which energy and personpower count more than money and equipment.

The forty-odd students between grades one and four gather around us in the mud, while I present the two teachers with more notebooks and pencils. They want very much to have the Swiss lenses unlimbered, so we both take pictures for a while: bright-eyed grinning Miskito kids posing in the mud before their rambling wooden schoolhouse, a couple of soldiers who drop by to see what is going on, the teachers looking proprietary and self-conscious.

After the photo session we get down to a cross-fire interview, dialectical materialism on one side, agri-hippy gonzo on the other. This works pretty well, unearthing a few facts. Camla is a village of 600, with a church, a school of 94 pupils, and one tiny store. No doctors, nurses, or electricity. Sometimes ("not frequently") health officers visit and bring medicines. Such medicines, however, are kept inexpensive by government subsidy. Many of the people have come here from Sangnilaya and Sumibila, fleeing attacks on and around those encampments.

The two teachers here in the primary grades are new at their job. One is only 19, the other 24. They are both Miskito, like Myrna symbols of the government's new commitment to opportunity and self-improvement for Indians. What do they teach? Language, math, art, music, science, social studies, P.E. I express interest in the art and music, ask about classroom materials. Clay? None. Paint? None. Instruments? None. There is an embarrassed silence. We do have crayons, the older woman says finally. We sing songs. She shows me two small, ragged squares of paper on the wall, crude crayon drawings of huts, airplanes, stick figures. Some corners are missing. Cockroaches, she says. They like the paper.

What about the language class? I explain that I know of the new bilingual education program — have met its director — would like to see it in operation. Another silence. The bilingual program, Myrna interjects, is really a *pilot* program. But the director told me that Miskito is already in the classroom. The teachers nod. Yes, they use Miskito to explain when the children don't understand the Spanish. But the books? All in Spanish. There is work going forward on new texts in Miskito, of course. I recall the director, a thin, harried man hunched over his portable, still pounding away at nine o'clock at night in his otherwise deserted office. Myrna starts to say something else but I raise my hand and go on. I already know. The government is trying but.

Pascal is curious about social studies, and the teachers explain that this means primarily a review of colonialism, the exploitation of the imperialists, and the coming of modern, revolutionary Nicaragua under the guiding inspiration of Sandino. Pascal gives me a meaningful glance. I have noted already in one of the readers that E is for *ejercito* (army) and R for *Revolución*. In my country, I hear myself saying, we try to keep politics out of the primary grades. My colleague brays with disbelief and Myrna smiles. I cannot believe I said it myself. Pledge of Allegiance. Air raid drill. That is, I go on lamely, in any obvious way.

Anyway, let's change the subject. How are the working conditions, course load, salary? Five hours a

day of classes, five days a week, all in this big, bare room with no glass or screen, only wooden shutters. The monthly salary — a shy, deprecatory gesture — is 3600 cordobas a month. I process that figure a couple of ways. A little more than 100 cordobas a day, the same figure the skinny man crowed at me so derisively. At the little restaurant across from my hotel, 100 cordobas will not buy two beers. It is less than half of a good old U.S. dollar. Three, maybe four of the plain yellow No. 2 pencils I brought would cover it. Say one beer, one pencil, for a day's work. I hope Pascal feels the ironic pull of that camera around his neck.

Well, I say encouragingly, there are the free summers, right? Wrong. They must attend classes of their own in the summer, to improve their skills, participate in the national drive to upgrade education in Nicaragua. Only for the first few years, they hasten to reassure me. Eventually one gets the summers off. Right now we are needed, for this is a very hard time. The attacks, people moving in and out of the camps, the shortages.

I know, I know. I am getting to my feet. Trying but. Thank you very much for the information, for your time. I see the children are gathering outside, peering in at us and giggling. Carry on. Your work is very good and you are very brave. Good luck, and for the love of God, Myrna, let's get out of here.

That night I plunge out of the hotel, past the white jeep with the cigarette spark inside, and into the biggest restaurant-bar in Cabezas. I order a full meal, almost three days' salary for a teacher, and begin working through several beers and my second pack of Royals. Before me my notebook lies open and blank. Primarily I am in search of sleep, not information, but both have been increasingly hard to reach.

The restaurant has a Chinese motif, but is lit dimly in bordello blue and rose. There are soldiers at two tables, groups of young men in white shirts at others, a few couples. The Beatles, Willie Nelson, and Jimmy Cliff go by, then some Latin numbers about jealousy and murder. Around the fourth or fifth beer I see Myrna sitting primly at a table across the room, drinking a Pepsi. I catch her eye and lift a hand and she gives me a strained smile.

The boys at a nearby table have grown raucous. A waitress breaks them up, clears the table. A roly-poly young man lurches to my table, sticks out his hand. Howeryoo Sir. Eenglish I have study. What eez you doing? He gestures at my notebook, sits down. What eez your chob? Ah, journalist! Finding the truth of things. How it is and write it down. His own chob just now is travelling salesman, but he has studied radio electronics by correspondence from the U.S. He knows assembly, the Morse code, trooble-shooteeng. But the government — eyes to

"I stayed for two weeks in the home of my friend Georgio. It's a middle-class home in a barrio on the outskirts of Managua City. Everything happens in the patio where it's cool and private. I painted the maid as she rested on the sink where she does the washing." —*Anthony Holdsworth*

A poor Indian, out of work and heavy-hearted, will drink a little too much and take a swing at someone on general principles of grief.

the ceiling. No chobs. He must hustle, buy and sell. Plastic plates and cups just now. Back and forth on the old plane.

Another beer moves us, inevitably, into politics and religion. For him that is the chief issue. He is Catholic, believes in God, the Supreme, the Almighty. But now — did I know they are sending the children to Cuba and teaching them that there is no God? The Revolution — very good, he was for it. But not without God. The Revolution needs God a lot more than He needs the Revolution. Something must be done to save the country. But not the contras. They are still crooks. You must find out the truth and take it back with you, the journalist's chob. And how is it going?

I try to explain. It seems too much. He can see I have taken up cigarettes. Filter or no filter, a pack a day plus a few Marlboros filched from my gift supply. Also tonight beer, in major quantities, because I can't sleep. I lie in the bed and close my eyes but I keep seeing the children's faces and the soldiers with guns and the pigs in the mud and the men with their bandages and the shacks and broken bottles in Managua and the paintless old boats moored sadly and the Comandantes saluting the thundering tanks and other things, my farm and my dog and my daughter safe and in a fine school. I can't get any goddamned sleep, you see? Because of the bullshit. Ah, boolsheet. Yes, he knows. He turns away slightly in the dim light, wiping his eyes. He knows very well. I understand. I am his brother. Whether I believe in God or not. He digs in his pocket. Here is a little ring — nothing much, only tortoise shell — for my daughter. It would be a memento from my Nicaraguan brother.

We both know there is nowhere to go from here. We must part before we blubber or find ourselves unable to stand. He scribbles his address in my notebook. When in Managua again I must call. A picnic. His children. We will take a boat on the lake. Like brothers, forgetting all this boolsheet. We shake hands, navigate the door, embrace on the sidewalk, then reel off in opposite directions. I light a cigarette and walk carefully in the middle of the street, taking a fix on the bright bulb and its swirl of insects hanging at the next intersection. Midway in the block a figure steps from the darkness. I can make out the gun slung at the shoulder.

Good nights, and how are you? And where are you going? To my hotel, just there around the corner and another two blocks. So what? Is that against the law? The man falls in beside me, not in step for he swings one leg stiffly. No, everything is fine. But with my permission he will walk some way with me. He has noticed those cigarettes, which they do not see very frequently here. Would he be able to try one? Sure. Brothers, everybody brothers. Even the army. Oh he is not in the army. Only police. He walks around here nights. Nothing to it. He can't do much anyway because of this leg, which is artificial. In the day he is a teacher.

Two salaries make it easier. Oh no, he laughs a little. No pay for this. He just does it to help out. Everybody must do something, for so much needs doing. He is glad to have this useful duty, even with one leg. But now he is at the end of his beat, here at the intersection, and wonders if I would possibly mind — supposing I had more of these cigarettes — if he took a few back to his mates at the station. They would be very surprised and pleased to see this brand, very appreciative.

I do not mind. Take the whole goddamned pack. Just make sure you share it with your mates. The other volunteers. And welcome. No need for thanks. It is nothing. A day's work for you maybe, but these are nothing, nothing to me. Smoke up. Carry on. Good nights and God bless you, brave revolutionary gimp, and your whole goddamned rinkydink nation. Let it rattle on into the future, or fall apart, or get itself invaded, and goddamn good luck one way or the other, and goddamn the Comandantes, and goddamn Sandino, and goddamn the Miskito, and goddamn Somoza, and goddamn the Enemies of Humanity, and goddamn the *CoEvaluation Quarterly*, and goddamn mommy and daddy and all my uncles and aunties and my little doggie too, because I need my goddamned sleep. And this night, finally — my heart utterly stupefied with frustration — I get sleep.

FOR THE NEXT two days I tell lies and evade Myrna most of the time, trying when I am with her to pretend interest in the interviews she has arranged. She sees through me and is troubled, guesses or knows that I am poking around on my own, talking to the disgruntled. I try also to convey to her that I like her, wish we were not trapped in these roles. But whenever she is around there is a subtle shift in the ambiance of conversations; blank smiles and easy banter somehow use up our time. The ministers and teachers and good citizens that we visit are not apologists, not rubber stamps; they are simply believers. They estimate generously, stress the trying not the but, look forward to better times. ►

Boosters, we would call them, and God knows the country needs them. Tightening the belt and getting on with the job are positive attributes in any citizenry, and perhaps indispensable to a revolution. Out on my own, however, striking up conversations at random, I find people — usually Indian and usually poor — who don't much care for the drift of things. It isn't really a political stance; they just want more food, better pay, a free harbor. They wish the soliders would leave — both kinds of soldiers — and most of the government presence with them. They are cynical and resigned behind their own tough good humor. It occurs to me at some point that if I were strolling around in East Oakland, I would hear the same kind of talk.

At this closer view a number of matters become less political. Talking with a few former detainees, I adopt the opinion that just possibly — boldly I take now the risk of turning racist, counter-counter-revolutionary, lackey of the ruling class — a poor Indian, out of work and heavy-hearted, will drink a little too much and take a swing at someone on general principles of grief or hopelessness; or a woman married to such a man, burdened with the responsibility of feeding many children, will carelessly take up a machete to remonstrate with the first merchant to raise the price of some little necessity. These are not always sure signs of political unrest among the masses.

Another example: one of the former MISURASATA members who has been in and out of jail, both his commitment and his temper working against him, is a relative of the woman who runs my hotel. He is on the government's list of Indians to keep an eye on. She, on the other hand, has a position of some influence with the Sandinistas, for her husband has drifted off to Managua and the man behind the glowing cigarette in the jeep is no less than the chief Cuban adviser for intelligence and security. Such business may be behind a comment heard from a man speaking from the dark of a nearly deserted bar. "I don't like dese people, mon. De Cubans, dey come in here and live better dan *us*."

This sort of rinkydinkery I found comforting and familiar. Loyalties and enmities and aspirations and disappointments getting all ensnarled. Humans up to their usual tricks. Ideals with soiled hems. Garlic on the breath of the Revolution. I know people have fought and suffered and died for these ideals, this Revolution, and some will be repulsed by my shallow disrespect. But I find nothing but comic pathos to hold against the powerful tides running here, running toward death. Leaning into these tides, in fact, I believe I am rediscovering a great, idiotic truth, one so omnipresent I am always forgetting it, and a theory begins to take shape.

I begin by asking myself why there are so many little white inconsistencies on all sides, why compromise, reconciliation, even simple understanding seem so difficult to reach, why there is no filter inside the little cork band. Finally I trace the root of the matter, and it leads not to capital, not to commune, not to nation or patriot, not to liberal or conservative, not to ideal or material, but to the little syllable we habitually tack onto these concepts, already of a dangerous density, to make them into mighty thunderbolts of theory: the ism of all the isms, the transcendent IZUM, a magnetic power that can eat any adjoining semantic energy and convert it to a new purpose. That purpose is to take the marvelous, elusive, refractory, and polyvalent material we call human nature and put it through a blender. What emerges is homogenous, impersonal, omnipresent, very powerful, and utterly dangerous.

IZUM is as elusive as ether but more potent than LSD. It is multiple and monomaniacal. Whatever chameleon form it takes it always dedicates itself to the annihilation of alternative forms of itself. Izum has the fecund ruthlessness of fire, feeding only to enhance its appetite. Like water it may be displaced and reshaped infinitely without altering its fundamental character. Like earth it exerts an attraction on all, impedes everything, yet seems the only plane upon which we may advance. And like the air we breathe, Izum is everywhere.

IZUM spawns legions of *ists*, shadow-beings who summarize human motive into pure worship or hatred.

What is the structure of Izum, and how does it work? We have already said it is voracious, omnipresent, and Hydra-headed, but how are these qualities made manifest? The most visible sign — the fin of the shark — occurs in language. Izum can swallow any word: think of what happens to "social" and "race" when they are Izumed, the immediate rush of adrenalin — controversy, potential violence, armies and mobs. For Izum spawns legions of Ists, shadow-beings who summarize a complex mosaic of human motive and emotion into pure worship or hatred. It is a law that for every Ist there is an equal and opposite Ist, because the most fundamental principle of Izum — pardon a brush with paradox — is its false dualism, a system of apparent poles between which run currents of fear, suspicion, and violence. Let us take the obvious case: Capitlizum and Communizum.

Consider first their shared rhetoric. Both assert that their greatest concern is "peace." Both assert that the other is the greatest threat to that peace. Therefore they call

"Shade and a cool drink is offered by the 'Popular Cafe' in the center of Esteli, an important town in the Sandinista revolution. You can get snacks, fresh-made fruit drinks, or a Pepsi. By the time I finished sketching the stand, the customers left and only the cook stayed during the hot afternoon."
—Lucinda Lynch

each other identical names: hypocrite, liar, war-monger. Both choose to "win" peace by manufacturing weapons, charming and arming client states, provoking and encouraging insurrection or oppression. Both adopt alternately aggressive and conciliatory postures. They take turns proposing and rejecting, opening trade and imposing blockades, sending now troops, now diplomatic envoys.

All this occurs in the name of ideology, for the superpowers representing these systems do not desperately need each other's food, fuel, raw materials, or markets. But ideology is actually only the foam on a tumultuous sea of hatred, menace, and terror generated by Izum. Izum galvanizes both capital and commune, hurls them into a passionate embrace, charges their every gesture or policy or statement with a thrill of danger. They are stimulated and excited, as lovers are. They *must* have each other, because the leaders on both sides draw all their moral grandeur, their opportunity for immortal heroizum, from the shared sacrament, this common possession.

It has probably always been so. Electrified by Izum, a populace begs for mighty spectacle and sacrifice. The mammoth blood-drenched stone gods of the Americas are testimonials to its power in a purer and truer form. Huitzilopochtli craved blood daily, by the barrels, and legions strove to erect his temples or to capture victims for his delectation. One imagines that everyone — priest, soldier, merchant — labored with diligence and enthusiasm at this task, and reveled in the communal ceremonies where terror, desire, and death were given epic expression. Men felt the jolt of some vast, apparently supernatural force moving through them, guiding the stone knife.

Nowadays Izum must work by pious subterfuge and vigorous disclaimer. Everything must be in the name of "peace," even wholesale slaughter; everything must have higher purpose — The Brotherhood of Man, or the Biological Imperative, or Freedom, or God's Love. By some sinister, seldom-recognized logic, the higher the aim the greater the treachery and cruelty tolerated in its achievement. Hoist a flag over extortion, blackmail, and murder and they become "covert operations" or "intelligence gathering." Izum, or Eezmo as it calls itself here, delights in this ghastly irony, in perverting the language of all nations in order to pitch them into frenzied bloodletting.

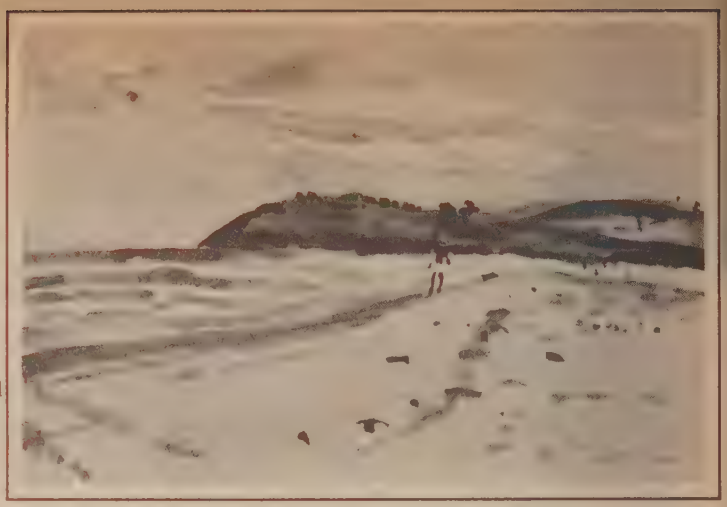
So even the small, backward, dirt-poor countries of the world are swept into the vortex. Their leaders strut and grow shrill, whip an undernourished and disease-ridden populace to sweat out the wherewithal to buy huge, shining, swift, and deadly machines. Then the overlords of the world at least take them seriously, prod and stir them in the hope of provoking a flash of little rodent teeth, a justification for releasing their own pent-up charge.

Izum is in no hurry. Izum is secure in its power, humming always deep in the human heart, ready for that moment when people gather, like lemmings, under the impression that they have arrived at the edge of a clearing on the brightest and sweetest of mornings, sword in hand, while out of the receding night something approaches in terrible, fascinating glory. Izum is that something, and Izum is the least of these soldiers full of fear and hope; Izum is the sword and Izum is the night and Izum is the glory, cursed be its name.

Everyone here in Rinkydinkaragua is closer to the vortex. There is an unease at the margin of the smallest, pathetic transaction. A waitress in a fly-infested cafe leaning toward me after delivering a beer, a big, shy girl licking her lips with fear. Did I . . . perhaps have a few dollars, only a few, that she could afford to buy? I am shaking my head but she is going on mindlessly and out of breath telling me she wants to buy a brassiere but they must come from Costa Rica where only dollars will count, otherwise she cannot ever ever get one here, like so many things. I can't, I whisper, I have only fifty-dollar bills. She withdraws immediately and never looks me in the eye again.

Or perhaps the heat and misery have made me silly. Perhaps there is no Izum lurking just outside the frame of every photograph the eye takes. Perhaps this

wretchedness is normal, undistinguished. Perhaps a hardened journalist would not be discomfitted, rendered erratic and foolish. I only know that after a week in Puerto Cabezas I want to run for cover, because I think I can hear that hum deep in the heart, the dynamo of Izum, and it's the same hum I heard in my own country about the time our desiccated old Wagonmaster, amid flags and balloons and cheers, started talking about a new spirit in the land and cracking jokes about bombs on the way.



"We took a dilapidated boat and visited the white beach of El Bluff. Behind the hills shown in my watercolor there's a military base guarding the port of Bluefields. They use bulldozers to scoop up the sand for sandbag defenses. Six months after I painted this, the U.S. mined the waters off the beach to block entrance to Bluefields' Bay." —*Beryl Landau*

The old DC-6 does not, however, collaborate, in fact turns perverse. On the day of my flight out the rains come. The old crate appears once, a clumsy shadow slicing through clouds, engines barely audible above the drumming on the roof, and then lifts away again to return to Managua. No flight tomorrow either, it's Sunday, the dour agent tells the forlorn crowd, and slams the door. But I have reservations on the Honduran airline for Monday morning, I wail through the wooden panel, I must contact them. There is no answer. A man at my elbow whispers that I should try the control tower tomorrow, for they have a radio.

I spend the next 24 hours with notebook, rum, and cigarettes, except for a brief visit to Government House, where I bid a formal, awkward farewell to Cesar and Myrna. I present them with Pilot Fineliner pens and we exchange best wishes, but our smiles are not gay. I give my good friend the taxi driver an old suitcase, and bum one of his new Marlboros on the trip to the deserted airport. The weather has cleared to torn patches of cloud in a bright blue sky, and as I walk out toward the control tower the two little push-pull planes that constitute the sum of Sandinista air power in this zone taxi into position for takeoff. They rev up, waddle down the tarmac, and rise like fat droning beetles. A dog at the foot of the tower rises on his front quarters, utters a routine growl, and falls back in the dirt, yawning.

I can hear voices through an open window, so I shout up, requesting permission to explain my dilemma with regard to reservations. Those in the little cubicle high above have difficulty locating my voice. Finally I am given to understand that nothing whatsoever prohibits my mounting the stairs and throwing back the trapdoor into the tower. I do so, and climb into a little office containing two desks littered with charts and papers and a third upon which squats a grey box embossed with dials and switches. Various wires and cords sprout from the back of the box and grow up the walls or along the floor. Present are the dour clerk and a stocky little man with a flourishing moustache and the eyes of a bloodhound.

They are very glad to see me. The voice from below was unexpected, a strange accent. They were amazed. I must sit down and tell them my story. But would I care for a little nip? Unofficial? The man with the moustache smiles with an infinite benevolence and winks at his friend, who pulls from a file cabinet a pint of caña two-thirds gone. I toast their hospitality. Then the box coughs out a message in a tone like iron filings and the man launches a search over the desks until he encounters a hand microphone on a twisted cord. He speaks a few numbers into the microphone, hiccups, and calls something a whore before he cites more numbers. The bombers, I gather, are now on their own.

We talk about California and dollars for a while, then about the misery and Indians, agreeing that the whole situation is a whore. I gently bend the discussion around to travel and mention the wisdom of contacting the airport in Managua to change reservations. It takes two or three attempts, but the dates and times are finally nailed down and the dispatcher once more tracks down his microphone. There is much static besides the iron filings in the distant voice, and my name as it emerges from beneath the moustache is formidable in volume but difficult to recognize, even for me, so I have very little faith in this emergency broadcast. When the man signs off and gives me a fist aloft in comradely solidarity, I conceal my anxiety and thank him, declining all but a final symbolic sip of fellowship.

We shake hands with all our strength. Any time, in any emergency, they stand ready to assist. That I am a yanqui is of absolutely no consequence. You invade us, we invade you, who gives a shit, as long as we get this whore over with. I retreat through the trapdoor with a wave, followed by a hearty chorus of magnan-

You invade us, we invade you, who gives a shit, as long as we get this whore over with.

imous farewells. On the long walk back to the battered taxi waiting in the shade of a tree, I consider writing my President to warn him that he has grossly underestimated the dire threat of this adversary. They might at any moment find some secret way of exporting their revolutionary air traffic control system, and he has left us dangerously vulnerable there already.

Anyway, somewhere in the dialogue I have learned that tomorrow there will be a flight, and we deferred passengers will have priority. Today there is yet time to gather more facts, interview more boosters or disgruntleds, perhaps return to Lamlaya and continue a conversation, barely begun, with the most venerable man there — a cotton-haired old duffer with only one leg who fought with the true, the historical Sandino. The Great Hero had only one political principle, the old guy claimed, and that was: Throw out the Enemies of Humanity.

The trouble is, I can't take any more confrontations with the Misery and Izum. The fifty-dollar bills in my pocket are beginning to glow with a dark hell flame, promising relief. Back home, all this will appear in right perspective. The defenders of the various Eezmos will argue, hold workshops, write caustic letters to editors, work up a sweat of righteousness in the Nautilus room of a free, rich society, then relax with a hot shower, thick steak, good California red. The suffering of two and a half million people will shrink to its proper proportions, distant rinkydinkery.

I ask the taxi driver if there is a beach, any beach, near town where a person can wade in the surf and catch the wind straight off the sea. He brightens, nods, offers me another Marlboro. We drive through the shanties in Indiantown, past an Army compound where soldiers are lounging in doorways, to a little bluff over a small river that widens into the flat, gray ocean. Another group of soldiers is bathing there in their skivvies, splashing and whooping. I strip down and join them. An impromptu race, in which representatives of the People's Army defeat an Enemy of Humanity. Huzzahs all around. A little chat back and forth. Standard military issue: homesickness and covert operations against girls, getting ready to — no offense — turn back the yanquis.

After sundown I and the driver drift into the only waterfront nightclub. It is a room with concrete floor and bamboo walls, open on one side to a weedy driveway. Two bulbs on the ceiling are equipped with cellophane shades, red and blue, and this infernal light is scattered by a turning globe of faceted mirrors. A considerable noise, vaguely rhythmic, pumps out of a pair of speakers. Most of the tables are empty; only a group of young men and one couple, heads almost touching in intimate conversation, and they barely glance at us.

The proprietor eases over to join us. He is a handsome, soot-black Creole with a gold earring. He has the shoulders and hands of a wide receiver and a smile of alabaster, tombstone teeth. I am on the verge of decoding the noise from the speakers, which I believe to be English from Nashville not later than 1975. Buck Owens, the proprietor says proudly. He likes this kind of music. Only a few days ago, he is reminded, one of the old-timers died. Roy Acuff or Bill Munroe or Lester Flatt or someone of that caliber. He heard it on Voice of America. Would I like to see the sound system?

We pass into his kitchen, where he recovers a baby from the floor by the great white refrigerator full of gaseosas and beer. On a shelf is the source of the noise: a tiny Sony cassette player, the size of two poker decks, wired through an ancient tube amp. Stacks of tapes rise in precarious stair-steps leading nowhere. They are wearing out, the proprietor says, and nowhere to buy new ones. This little player was a lucky find, now rigged to perform extraordinary duty. Music of some kind, we agree, is necessary to an establishment devoted to entertainment, is in fact vital on general principles.

The baby is returned to a wife in a living room and we go back to our table, bearing beers on the house for myself and my driver. I ask him about his clientele, the volume of trade. All kinds of people come, he says. Everybody minds his own business here. Just the sound, the red and blue light, and a little beer to pass the time. There is a lot of trouble to forget. He is surviving, though not going much of anywhere. He wishes there were new tapes, decent equipment; then there could be dancing. But — he shrugs. We all drink, saying nothing. We all know. Trying but.

Another group of three couples has arrived, and soon after two soldiers with automatic weapons drop by. The proprietor talks with them on his threshold, passes out cigarettes. When they depart, I nod to the driver and we rise to go. We all shake hands. My last night, I say, and it has been pleasant. Those old tunes and a cold beer were just right to wind it up. Funny, no matter how tough things get, people will still manage to have a good time.

The big white teeth and the earring flash out of the dark at me. "Hey mon," he says, "cost too much to give dat up." ■

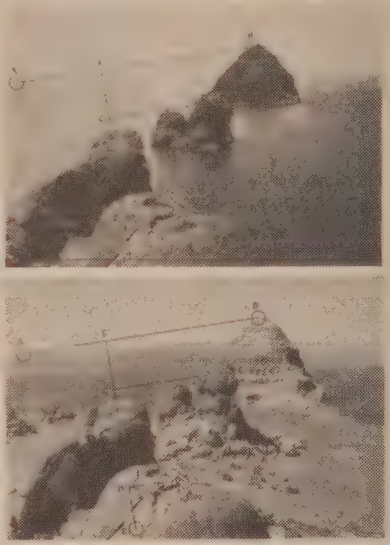
Second View

(Left) William Henry Jackson, ca. 1880. Devil's Slide, Weber Canyon, Utah (Amon Carter Museum). (Right) Mark Klett for the Rephotographic Survey Project 1978, Devil's Slide, Weber Canyon, Utah.

STEWART BRAND: A book that justifies having a coffee table, a book that will grow in value with the decades. The subject is time. The method is "rephotography" — the exact reshooting of historic photographs with modern research and camera work. The effect: you learn to feel and observe like a mountainside.

At first I was disappointed that the modern photographers chose 120 government survey photographs of the 1870s and 1880s to work with — Timothy O'Sullivan, William Henry Jackson, etc. — since their images were so dominantly, and magnificently, geological. I thought more ephemeral subjects would be more revealing — cityscapes, farmland, and such. But in a century obsessed with change, it is lovely to see change put in its place. ***Second View*** *teaches respect for rocks, disrespect for human projects.*

And it introduces rephotography as an astonishing technique for insight into place. Try it in your place.

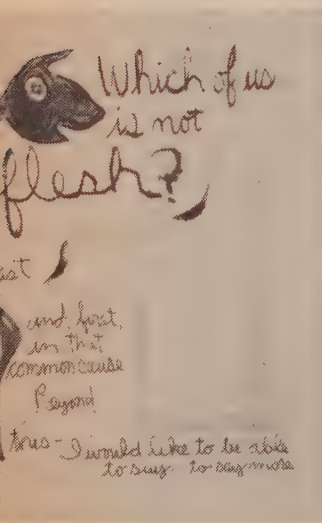


A mathematical technique for checking the accuracy of a new vantage point.

(Above) Timothy O'Sullivan, 1867. Rock formations, Pyramid Lake, Nev. (M.I.T.) (Below) Mark Klett for the Rephotographic Survey Project, 1979. Pyramid Isle, Pyramid Lake, Nev.

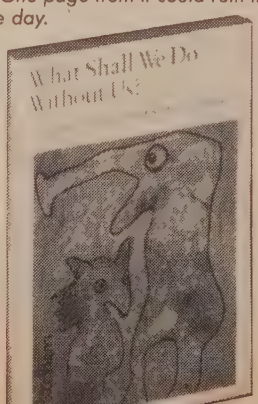
Second View
(The Rephotographic Survey Project)
Mark Klett,
Chief Photographer
1984; 221 pp.
$67
postpaid from:
University of
New Mexico Press
Journalism Building
Room 230
Albuquerque, NM 87131

What Shall We Do Without Us?



WAYNE KEPLINGER: Over the years I have bought several copies of certain books, such as ***The Whole Earth Catalog***, ***The I Ching***, *and* ***I and Thou*** *— one to keep for myself, the rest to give away. With gratitude, I now add to that list Patchen's* ***What Shall We Do Without Us?****, the first widely published collection of some of his "painted poems." This book gives us 37 of them, printed in color, one side only on quality paper, making them suitable for framing.*

These poemed paintings are post-sophisticated, post-nihilistic. Patchen is primitive; he still believes in humanity. This book is the collected outpourings of a conscience raging with compassion. One page from it could ruin the Kremlin-Pentagon's whole day.

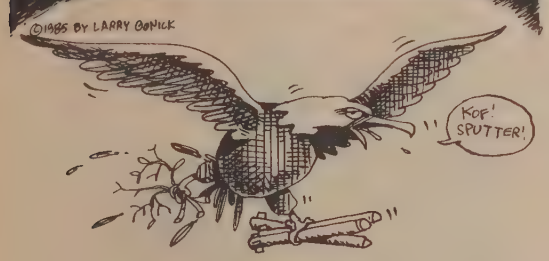


What Shall We Do Without Us?
Kenneth Patchen
1984; 112 pp.
$15.45
postpaid from:
Sierra Club Books
1142 West Indian
School Road
Phoenix, AZ 85013
or Whole Earth Access

THE BIASED, PEDANTIC, INSUFFICIENTLY REVERENT, AND PROBABLY BEST IGNORED HISTORY OF THE UNITED STATES

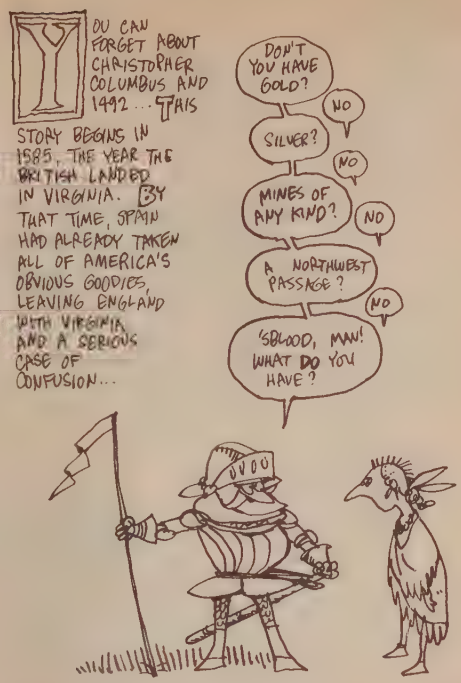
BY LARRY GONICK

THE OVEREDUCATED CARTOONIST

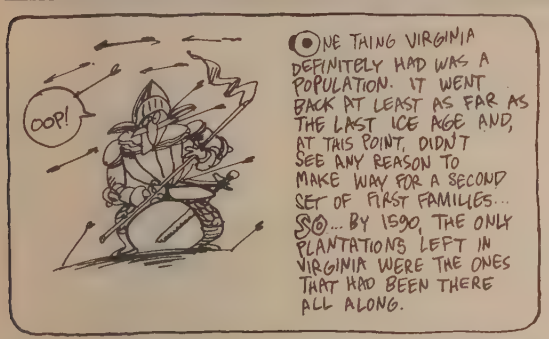


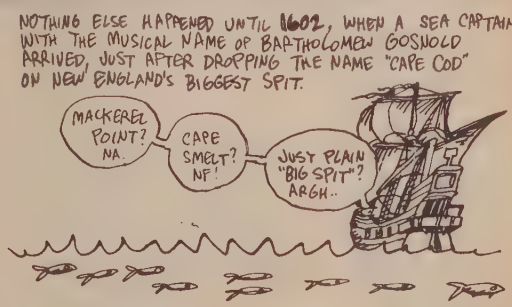
• CHAPTER ONE •

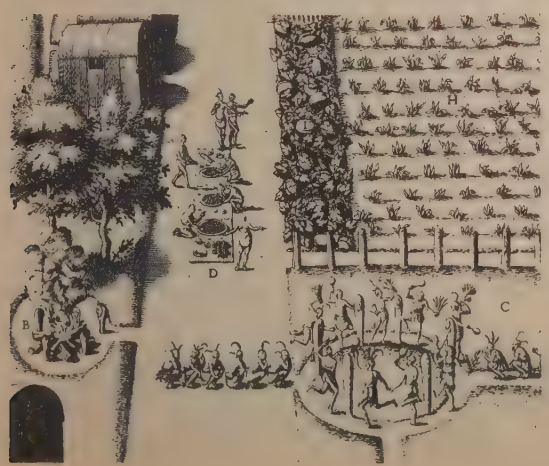
IN WHICH ENGLAND PLANTS THIS AND THAT

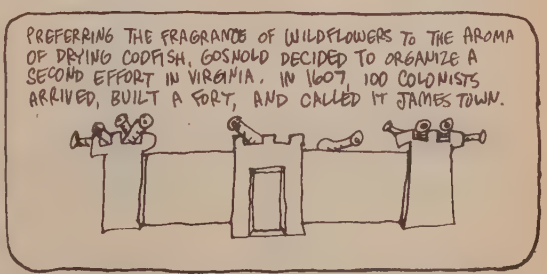

YOU CAN FORGET ABOUT CHRISTOPHER COLUMBUS AND 1492... THIS STORY BEGINS IN 1585, THE YEAR THE BRITISH LANDED IN VIRGINIA. BY THAT TIME, SPAIN HAD ALREADY TAKEN ALL OF AMERICA'S OBVIOUS GOODIES, LEAVING ENGLAND WITH VIRGINIA AND A SERIOUS CASE OF CONFUSION...
DON'T YOU HAVE GOLD?
NO
SILVER?
NO
MINES OF ANY KIND?
NO
A NORTHWEST PASSAGE?
NO
'SBLOOD, MAN! WHAT DO YOU HAVE?
UVOO

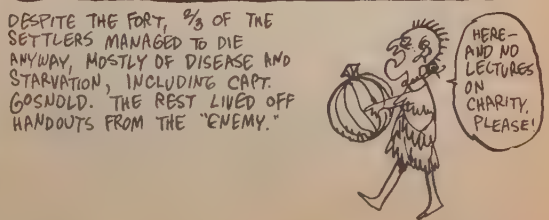
Nothing seems to unjam historical facts as well as comic wit, which sends all the monumental stuff down the river, leaving us the odd-shaped key goodies. Harvard mathematics graduate Larry Gonick interrupts his ongoing Cartoon History of the Universe (NWEC p. 566) *at 327 B.C. to jump ahead into the briars of America, beginning here with part one.* —Kevin Kelly


OOP!
ONE THING VIRGINIA DEFINITELY HAD WAS A POPULATION. IT WENT BACK AT LEAST AS FAR AS THE LAST ICE AGE AND, AT THIS POINT, DIDN'T SEE ANY REASON TO MAKE WAY FOR A SECOND SET OF FIRST FAMILIES... SO... BY 1590, THE ONLY PLANTATIONS LEFT IN VIRGINIA WERE THE ONES THAT HAD BEEN THERE ALL ALONG.


NOTHING ELSE HAPPENED UNTIL 1602, WHEN A SEA CAPTAIN WITH THE MUSICAL NAME OF BARTHOLOMEW GOSNOLD ARRIVED, JUST AFTER DROPPING THE NAME "CAPE COD" ON NEW ENGLAND'S BIGGEST SPIT.
MACKEREL POINT? NA.
CAPE SMELT? NF!
JUST PLAIN "BIG SPIT"? ARGH..




PREFERRING THE FRAGRANCE OF WILDFLOWERS TO THE AROMA OF DRYING CODFISH, GOSNOLD DECIDED TO ORGANIZE A SECOND EFFORT IN VIRGINIA. IN 1607, 100 COLONISTS ARRIVED, BUILT A FORT, AND CALLED IT JAMES TOWN.


DESPITE THE FORT, 2/3 OF THE SETTLERS MANAGED TO DIE ANYWAY, MOSTLY OF DISEASE AND STARVATION, INCLUDING CAPT. GOSNOLD. THE REST LIVED OFF HANDOUTS FROM THE "ENEMY."
HERE— AND NO LECTURES ON CHARITY, PLEASE!

AFTER THIS SECOND DISASTER, THE COLONY'S SPONSORS HAD ANOTHER ATTACK OF CONFUSION. WHAT WAS VIRGINIA GOOD FOR, ANYWAY?

SOMETIMES THINGS LOOK BETTER FROM A DISTANCE!

THEY SAT DOWN TO REEVALUATE THEIR GOALS — AND CAME UP WITH THE THOUGHT THAT VIRGINIA WAS HELPING DISPOSE OF ENGLAND'S "SURPLUS POPULATION."

THEY QUICKLY PACKED OFF 500 MORE VOLUNTEERS, OF WHOM MORE THAN 400 PROMPTLY DIED.

INSTANT SUCCESS!

WHAT ARE THEY TRYING TO GROW HERE?

CROSSES?

FATHER! SPARE HIM!! LET US ACQUIRE THEIR ADVANCED TECHNOLOGY!

LIKE WHAT?

LIKE: METAL AXES... WOOLEN BLANKETS... DOORS WITH LOCKS... DIGITAL WATCHES... "GARFIELD" BEACH TOWELS...

BRAIN HIM NOW.

NOT EVERYONE WAS WILLING TO LIE DOWN AND BE DISPOSED OF, SO CAPT. JOHN SMITH LED A WAR PARTY TO SEIZE THE INDIANS' STORES.

CAPTURED BY THE POWHATANS, HIS HEAD WAS ON THE BLOCK, WHEN THE PRINCESS POCAHONTAS INTERVENED. SMITH THOUGHT IT MUST BE LOVE, BUT WHO KNOWS? HE DIDN'T SPEAK POWHATAN..

STILL, HOW CAN YOU TRUST A MAN WHO CALLS HIMSELF "JOHN SMITH"?

SMITH WAS SPARED... POCAHONTAS MARRIED THE ENGLISHMAN JOHN ROLFE... AND THE POWHATANS MADE A TREATY OF FRIENDSHIP WITH THE VIRGINIANS.

SO THE COLONY WOULD SURVIVE... BUT WOULD IT THRIVE? WHAT COULD THEY PLANT ON THIS PLANTATION (BESIDES CORPSES, THAT IS)? THEY TRIED COFFEE, SUGAR CANE, BANANAS... UNTIL FINALLY JOHN ROLFE HIT ON TOBACCO, A NATIVE WEED.

THE RESPONSE IN ENGLAND WAS SENSATIONAL, BEYOND ANYONE'S IMAGINATION— IN FACT, YOU COULD BARELY SEE IT.

KAF!

HWAK!

IN 1619, THE FIRST AFRICAN SLAVES ARRIVED TO "HELP OUT" ON THE PLANTATIONS...

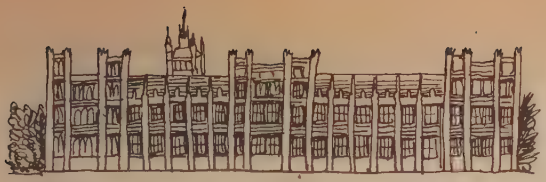
BY 1622, VIRGINIANS HAD PLOWED 140 MILES UP THE JAMES RIVER. THE INDIANS, WHO ONLY USED TOBACCO ON CEREMONIAL OCCASIONS, WERE HORRIFIED, AND WIPED OUT 347 SETTLERS IN A COUPLE OF DAYS.

MARK MY WORDS TOBACCO'S BAD FOR THE SOIL, AND SLAVERY'S BAD FOR THE SOUL!

THE COLONISTS STRUCK BACK WITH EQUAL FEROCITY, AND CONVINCED EVERYONE THAT THEY WEREN'T GOING AWAY.

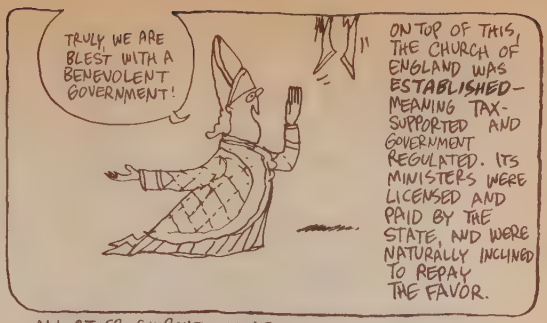
⇒ OH, YES. ONE OTHER THING: JUST BEFORE THE SLAUGHTER, THE PLANTERS HAD ORGANIZED THE "HOUSE OF BURGESSES," COLONIAL AMERICA'S FIRST LEGISLATURE.

WOW! A SLAVING, CARCINOGENIC COLONY WITH REPRESENTATIVE GOVERNMENT!



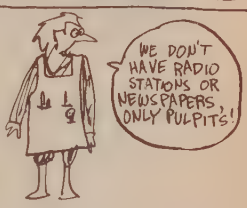
WHY, YOU MAY ASK, WOULD ANY SANE PERSON LEAVE ENGLAND FOR VIRGINIA? GOOD QUESTION!! WELL, IT SEEMS THAT "MERRIE ENGLAND" WAS LOSING ITS SENSE OF HUMOR, AS LANDLORDS EVICTED FARMERS BY THE THOUSANDS, FORCING THEM TO FACE SOME VERY TOUGH CHOICES...

THERE AREN'T ANY JOBS IN THE CITY..
IF YOU GO TOO FAR INTO DEBT, IT'S JAIL FOR SURE!
I'M TOO PROUD TO BEG..
SO I STOLE A LOAF OF BREAD AND WAS SENTENCED TO DEATH...
THEN THEY OFFERED ME A CHOICE BETWEEN HANGING AND VIRGINIA..
I CHOSE HANGING.
I'D RATHER BE IN HELL IN TWO MINUTES THAN VIRGINIA IN 30 DAYS!


TRULY WE ARE BLEST WITH A BENEVOLENT GOVERNMENT!
ON TOP OF THIS, THE CHURCH OF ENGLAND WAS ESTABLISHED— MEANING TAX-SUPPORTED AND GOVERNMENT REGULATED. ITS MINISTERS WERE LICENSED AND PAID BY THE STATE, AND WERE NATURALLY INCLINED TO REPAY THE FAVOR.

ALL OTHER CHURCHES WERE BANNED BY LAW.

EVEN SO, ALL MANNER OF UNLICENSED CHURCHES SPRANG UP: BAPTISTS, QUAKERS, PRESBYTERIANS, FIFTH MONARCHISTS, THE BROTHERHOOD OF LOVE... THESE WERE THE PROTEST MOVEMENTS OF 17TH CENTURY ENGLAND!!

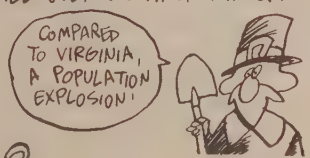


MARTYRDOM WITHIN LIMITS, THAT'S MY MOTTO!
AS THE GOVERNMENT CRACKED DOWN, MANY OF THE OUTLAWED SECTS FLED THE COUNTRY AND RELIGIOUS PERSECUTION.
IS THERE RELIGIOUS PERSECUTION IN AMERICA?
GIVE ME SIX MONTHS!
MOST OF THEM WENT TO HOLLAND, BUT ONE ESPECIALLY BRAVE OR CRAZY GROUP SET SAIL ON THE "MAYFLOWER" FOR VIRGINIA. (YES, VIRGINIA!) THESE WERE, OF COURSE, THE PILGRIMS.

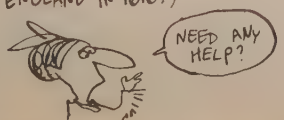
MISTAKENLY LANDING IN MASSACHUSETTS, THE PILGRIMS FOUND THEMSELVES TRIPLY BLESSED:

1. THE COAST HAD RECENTLY BEEN DEPOPULATED BY A PLAGUE. THERE WAS NO ONE TO FIGHT!

2. ONLY HALF THE COLONISTS DIED OVER THE FIRST WINTER.



3. THE AMAZING SQUANTO APPEARED: A LOCAL PATUXENT WHO SPOKE FLUENT ENGLISH. (HE HAD BEEN KIDNAPPED TO ENGLAND IN 1616.)



NO WONDER THEY THOUGHT THAT GOD WAS WITH THEM!!

THANKS MAINLY TO SQUANTO'S FARMING TIPS, THE PILGRIMS REAPED A BUMPER CROP IN 1621. THEY CELEBRATED WITH THE FIRST THANKSGIVING.

OR, FROM OUR POINT OF VIEW, THE LAST THANKSGIVING!

WHEW.

OOF!

AND FOR US?

OH, YES... DESPITE THE CHUMMY ATMOSPHERE, THE PILGRIMS HINTED THAT THEY COULD BRING BACK THE PLAGUE, "IF NECESSARY"— WHAT YOU CALL A WHITE LIE..

THE ENDE JUSTIFIETH THE MEANES

BUT IT APPEARED THAT THE PILGRIMS JUST COULDN'T GET AWAY FROM IT ALL! IN 1626 A WILD MAN NAMED **THOMAS MORTON** SET UP SHOP NEARBY AT "MERRYMOUNT" (A NAME WITH DEFINITE GYNECOLOGICAL OVERTONES IN THOSE DAYS), AND HOISTED A MAYPOLE.

A PAGAN ABOMINATION!

PLYMOUTH'S PINT-SIZED CAPTAIN **MYLES STANDISH** MADE A SPECIAL TRIP TO TEAR IT DOWN...

* * * * * * * * * * * * * * * * * * * *

OTHER NEIGHBORS IN THOSE QUAINT DAYS INCLUDED VARIOUS FISHERMEN UP IN NEW HAMPSHIRE AND MAINE, SAMUEL MAVERICK, ANCESTOR OF TEXANS, AND WILLIAM BLAXTON OF SHAWMUT, WHO TRAINED A BULL TO RIDE, BECAUSE HE'D FORGOTTEN TO BRING A HORSE...

EE-HAW!

IN 1630 CAME THE DELUGE: 1000 PURITANS, WITH CATTLE, HORSES, SEED, TOOLS, AND BIBLES, LANDED NEAR MODERN BOSTON AND FOUNDED THE COLONY OF **MASSACHUSETTS BAY.**

THE PURITANS ARE COMING!

WHATEVER THEY ARE!

A **PURITAN** WAS SOMEONE TRYING TO "PURIFY" THE ESTABLISHED CHURCH FROM WITHIN (WHEREAS THE PILGRIMS WERE "SEPARATISTS," WHO HAD SPLIT AWAY COMPLETELY).

THE DIFFERENCE BETWEEN A PURITAN AND A SEPARATIST? ABOUT £2000 A YEAR!

THE PURITANS INCLUDED MANY RICH FAMILIES— WHILE SEPARATISTS GENERALLY HAD LESS TO LOSE.

WHATEVER THEIR DIFFERENCES, PURITANS AND PILGRIMS AGREED: THE BEST LAWS WERE THE OLD TESTAMENT LAWS: NO WORK ON THE SABBATH, AN EAR FOR AN EAR, DEATH TO WITCHES, THAT SORT OF THING.

ABSOLUTELY NO JIVE!!

THE MASSACHUSETTS MEN SHARPENED THEIR EAR SHIPS, KICKED OUT THOMAS MORTON, FOUNDED HARVARD, SWALLOWED MAINE AND NEW HAMPSHIRE, AND DECLARED ALL NEW ENGLAND A **PURITAN COMMONWEALTH**. IT HAD A TAX-SUPPORTED CHURCH WITH LICENSED MINISTERS, AND NO OTHER CHURCHES WERE ALLOWED!!

IS THERE ANOTHER WAY?

NEXT: NEW COLONIES AND BABY CHICKENS

The Historian's Handbook
Nearby History
Practicing History

ART KLEINER: Whenever I tackle a subject as a writer, I'm inevitably drawn to learning about its past. My current interest in market research, for instance: Without learning how it developed, I'll never understand how it affects our culture now. To get any depth at all, secondary sources — other people's histories — won't be good enough; I'll have to go to primary sources: letters, diaries, maps, journals, newspaper accounts, photographs, and memoirs. Finding the right material is an obsessive task which benefits from as much help as it can get.

The Historian's Handbook *lists lists. It's a dry but complete directory to indexes of old magazines, early government documents, and — most importantly — archives of unpublished letters and manuscripts. It covers both primary and secondary sources, mostly from the U.S. but with some worldwide. Suggester Tadas Osmolskis (apparently an amateur historian to judge from his letter) wrote, "I've gotten rid of all my other history 'how to research' books because this one has it all." He's right; it's pretty complete, although it stops at 1972.*

Nearby History *is a textbook for finding out what happened in your own town — specifically limited to the United States. If you can look past its patronizingly cute tone, you'll find valuable lists of documents, especially photographs and maps. There are also good hints for finding such documents when they aren't on those lists, and for inferring facts from such clues as the design of houses and streets.*

But neither of those books has helped introduce me to the craft of history-writing as much as ***Practicing History****, a book of essays by Barbara Tuchman. (She writes wonderful, popular narrative books like* ***The Guns of August****, about the beginning of World War I, and* ***A Distant Mirror****, about the fourteenth century.) It reminds me of Ursula LeGuin's book of essays on writing fantasy/science fiction,* ***The Language of the Night*** *(**NWEC** p. 509); both books inspire because their authors take the trouble to articulate why they care about what they write. Ms. Tuchman's purpose: "To enthrall the reader and make the subject as captivating and exciting to him as it is to me." Her methods: discard the unnecessary, write like a storyteller, invent nothing, and use mainly primary sources.*

You could be a historian with nothing more than these three books, access to a good research library (with interlibrary loan), a little travel, and the devotion of a year or two of spare time.

•

There were no satisfactory guides or indexes to diaries available until William Matthews published his two guides: one to American diaries and one to British diaries. In his *American Diaries* Matthews omits manuscript diaries and restricts his listings to diaries which have been published completely or in substantial portions. He also limits the diaries to those written in or translated into English. The diaries are arranged chronologically according to the date of the first entry; those beginning in the same year are arranged alphabetically. For each diary there are descriptive notes; a note on content, such as the chief subjects, places, and persons dealt with; biographical information about the diarist, if readily available; and a note of evaluation in the terms of the general reader. If there is no evaluation, the usual implication is that the diary is dull or conventional.

—The Historian's Handbook

•

The federal census is readily accessible up to a point. The search for individual names in the manuscript returns is made much easier by soundex indexes, state-by-state alphabetical lists of names by phonetic spelling of the surname, followed by the given names of heads of households. Many local libraries and historical or genealogical societies have copies of the census microfilm for at least the local area, and it is all available for purchase from the National Archives, Washington, D.C. 20408. Currently the manuscript census is kept closed for seventy-two years after an enumeration from regard for the privacy of people listed therein. Information on individuals from the 1920 and later manuscript censuses can be obtained only by the person described, the next of kin, or an authorized legal representative.

•

Use the interview to verify information gained from other sources. Do not take issue with accounts given by the respondent even if you believe another version to be more accurate. Be content to elicit as much information as possible, possibly by offering alternative versions: "Some people say . . . " or "I have heard . . . " You can decide later which version of a story is accurate.

—Nearby History

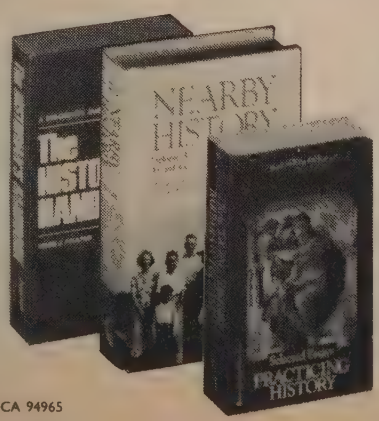
▪

Selection is what determines the ultimate product, and that is why I use material from primary sources only. My feeling about secondary sources is that they are helpful but pernicious. I use them as guides at the start of a project to find out the general scheme of what happened, but I do not take notes from them because I do not want to end up simply rewriting someone else's book. Furthermore, the facts in a secondary source have already been pre-selected, so that in using them one misses the opportunity of selecting one's own.

•

As to the mechanics of research, I take notes on four-by-six index cards, reminding myself about once an hour of a rule I read long ago in a research manual, "Never write on the back of anything." Since copying is a chore and a bore, use of the cards, the smaller the better, forces one to extract the strictly relevant, to distill from the very beginning, to pass the material through the meat grinder of one's own mind, so to speak. Eventually, as the cards fall into groups according to subject or person or chronological sequence, the pattern of my story will emerge.

—Practicing History



The Historian's Handbook
(A Descriptive Guide to Reference Works)
Helen J. Poulton
1973; 315 pp.
$12.45
postpaid from:
University of Oklahoma Press
c/o Harper and Row
2350 Virginia Avenue
Hagerstown, MD 21740
or Whole Earth Access

Nearby History
(Exploring the Past Around You)
David E. Kyvig and Myron A. Marty
1983; 313 pp.
$16.95
postpaid from:
The American Association for State and Local History
708 Berry Road
Nashville, TN 37204

Practicing History
(Selected Essays)
Barbara W. Tuchman
1982; 313 pp.
$8.95
postpaid from:
Random House
400 Hahn Road
Westminster, MD 21157
or Whole Earth Access

Deep Ecology

Deep Ecology
(Living As If Nature Mattered)
Bill Devall
and George Sessions
1985; 277 pp.
$17.45
postpaid from:
Peregrine Smith Books
P. O. Box 667
Layton, UT 84041
or Whole Earth Access

STEPHANIE MILLS: This book is an attempt at codifying a scattered body of ecological thought into a philosophy that places human beings on an absolutely equal footing with all the other creatures on the planet. They call this relation "biocentric equality" and the world view they extrapolate from it is radically different from that which informs society today, including the society of earnest professional environmentalists. Devall and Sessions suggest that the ideal of biocentric equality, by its very existence, can revolutionize the conventional or "reform" environmentalism which they so gingerly criticize.

What they're about, in part, is the much-despised but quite necessary task of saying This isn't radical enough. *They even gripe about vegetarianism and the animal rights movement (ideological purists may be lousy on near-term results, but they keep the frontiers way out there).*

Yet their assumption — that the ecological crisis is a mortal one, that its roots lie in human consciousness, and that that consciousness must be changed — is gaining ground in a variety of quarters. Consciousness-change is slippery stuff: talk can simulate it, and talk is cheap. Devall and Sessions foreclose the possibility that deep ecology might just become another rhetoric by cataloging the various courses of action incumbent on the deep ecologist. Because the ecological crisis, whose utter gravity they presume, is too urgent to allow for the luxury of discarding any insufficiently radical technique that might buy time through mitigation, they wisely criticize but do not condemn the conventional environmental tactics that keep man at the center of concern and that reinforce, through use, the conventions of central government.

In addition, they advocate drastic necessities, calling for stabilization and then reduction of the human population. Shockingly, they exempt deep ecological activists from devising a full-employment program to ameliorate the inevitable loss of jobs that would accompany the changes implied by their critique of our current world view. In unenlightened terms, deep ecology means tough shit for individual humans, but not for the species.

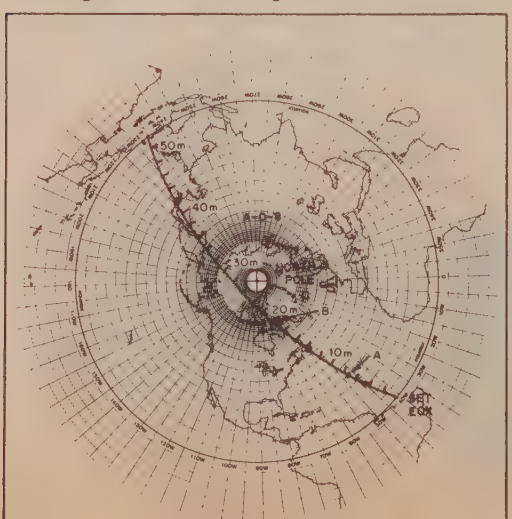
The major part of the book is a fairly straightforward, even scholarly exposition of the idea of deep ecology and its origins — this alone is worth the price of admission. It glosses the Western philosophical tradition, ecotopias, the politics of resistance, the godfathers (and mothers) of deep ecology, the spiritual failings of resource conservation, and numerous other tributary topics. If Devall and Sessions are but middling writers, they have keen eyes and a finely-honed understanding of the vital essence of their sources. They recognize profundity when they see it, although I'm not sure they're generating it in ***Deep Ecology****. Devall and Sessions serve, finally, as handmaidens of a crucial idea. They are indebted to other thinkers — Arne Naess, the Norwegian philosopher who coined the term "deep ecology"; John Muir, for his vivid articulation of the connectedness of all life and nature; and Gary Snyder, for his handily concise eloquence on the subject.* ***Deep Ecology*** *is a worthy and necessary effort, to be sure, but it left me wishing that this philosophy would find its Wendell Berry.*

KEVIN KELLY: I think this book's thesis is far more brave, far more extreme, far more original, and far more trouble-

The Satellite Experimenter's Handbook

ROBERT HORVITZ: While primarily intended for ham radio operators interested in ham satellites, this book is an excellent introduction to the concepts and technology of satellites in general. It tells you how to track and use various types of satellites, outlines their histories and characteristics, and even gives some general tips on how to build a satellite yourself. Requires some background in electronics and math, especially for the do-it-yourself projects.

Ground track superimposed over a polar map with the ascending node set to 41°W longitude.



•

A school group in Kettering, England, led by Geoff Perry, has become famous for often providing details of Soviet space launches long before official announcements. By studying orbital and launch data carefully, and by correlating this information with known astronomical facts and available details of the Soviet space program, the Kettering group has been able to predict mission objectives with uncanny accuracy.

•

Radio amateurs have successfully communicated by using the moon, a natural satellite of earth, as a passive reflector on 50, 144, 220, 432, 1296 and 2304 MHz. Although moonbounce communication, often called EME (Earth-Moon-Earth), has always taken the highest allowable power, large antennas and super receivers, it continues to have a special attraction to radio amateurs. . . . An early 1980 EME newsletter listed 68 stations, at least one from each continent, currently capable of two-way moonbounce communication on 432 MHz.

The Satellite Experimenter's Handbook
Martin R. Davidoff,
K2UBC
1984; 208 pp.
$11
postpaid from:
The American Radio
Relay League
225 Main St.
Newington, CT 06111
or Whole Earth Access

some than Stephanie's good review suggests. Approach it as a mystic, not as a scientist. This is new religion: not much is demonstrated, much is asserted. Most of the vigorous thinkers who have appeared in ***CoEvolution*** *and* ***New Age*** *are crowded in here so it's a rough and scruffy struggle to get them all to say the "right" things. But the simple message is chanted often enough to catch: all life has equal value; humans do not have superior rights over any other life.*

As the first trumpet herald of Deep Ecology Religion, the book sounds a properly deep and wide call. As science it's unfounded. As a religion I vehemently reject it as, fundamentally, hip fantasy — a philosophy of peak experience — that is morally false, completely untrue. It's the ultimate consequence of relativity (no absolutes). What is true is that a human counts more than a flea. Simple. That kind of thinking, according to the authors, dumps me in Wendell Berry's camp, which I consider honored and preferred company.

This is an important, landmark book. If I didn't have anything else to believe in, I might take it wholeheartedly. Yet even as construct, a theory, a cybernetic myth, I think it's valuable.

■

The *koan*-like phrase for deep ecology, suggested by prominent Norwegian philosopher Arne Naess, is: "simple in means, rich in ends."

■

The ultimate value judgment upon which technological society rests — *progress* conceived as the further development and expansion of the artificial environment necessarily at the expense of the natural world — *must* be looked upon from the ecological perspective as unequivocal regress.

■

"The essence of deep ecology is to ask deeper questions. The adjective 'deep' stresses that we ask why and how, where others do not. For instance, ecology as a science does not ask what kind of a society would be the best for maintaining a particular ecosystem — that is considered a question for value theory, for politics, for ethics. As long as ecologists keep narrowly to their science, they do not ask such questions. What we need today is a tremendous expansion of ecological thinking in what I call ecosophy. *Sophy* comes from the Greek term *sophia*, 'wisdom,' which relates to ethics, norms, rules, and practice. Ecosophy, or deep ecology, then, involves a shift from science to wisdom."

●

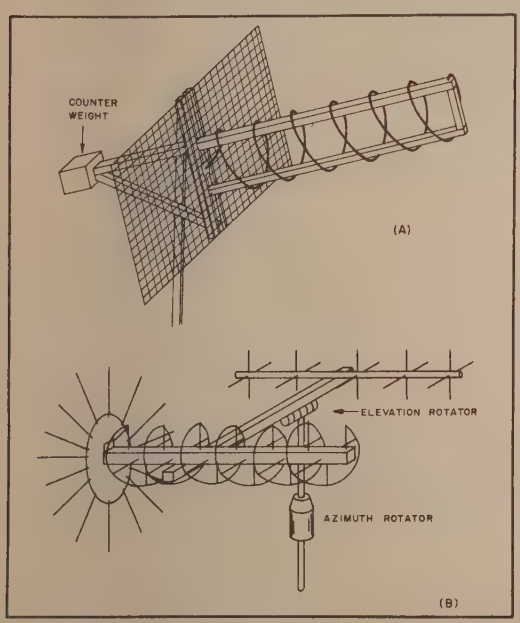
[Wendell] Berry is very much in the Christian stewardship tradition when he argues that the land must be "used" by humans. While he argues that we should consider "the good of the whole of Creation, the world and *all* its creatures together" (emphasis added), he also holds that we can't preserve "more than a small portion of the land in wilderness." But wilderness or near-wilderness is required as habitat for *all* of the Earth's wild creatures. Berry apparently fails to see the contradiction and falls short of deep ecological awareness.

■

The deep ecologist response to the revised Christian version of stewardship and to Lovelock's version is to agree in some respects on practical grounds but not on philosophical grounds

●

John Seed founded the Rainforest Information Centre and began a worldwide campaign to alert all people to the intrinsic value and worth of rain forests. In an interview he explained his own psychological development from passive observer to participant. "'I am protecting the rain forest,'" he said, "develops into 'I am part of the rain forest protecting myself.' I am that part of the rain forest recently merged into thinking. What a relief," he said. "The thousands of years of (imagined) separation are over and we begin to recall our true nature. That is, the change is a spiritual one, thinking like a mountain, sometimes referred to as 'deep ecology.'"

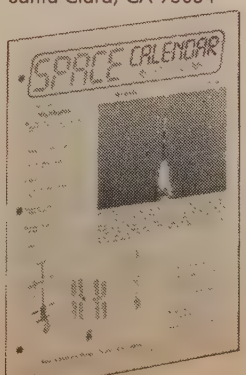


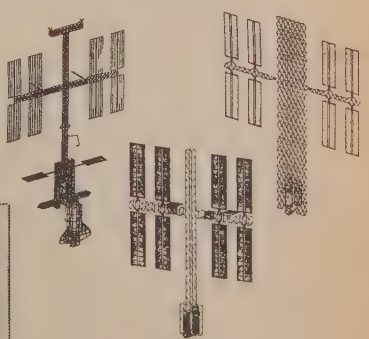
Frameworks that may be used for building helix antennas. A lattice structure, often used at 146 MHz, is shown at (A); the structure in (B) is popular at 435 MHz. For practical information on helix structures see: D. Jansson, "Helical Antenna Construction for 146 and 435 MHz," *Orbit*, Vol. 2, no. 3, May/June 1981, pp. 12-14.

Space Calendar

ROBERT HORVITZ: An essential tool for anyone interested in space activities. Day-by-day listings of launches, lectures, and congressional hearings before they happen. The "Down Range" column provides even earlier notice of upcoming events. Regular weekly features on planetary and lunar research, space station proposals, other countries' space programs, and new commercial ventures and services. They're very good about providing addresses and phone numbers for contacts, and at tracking the many steps in the policymaking processes of the federal government.

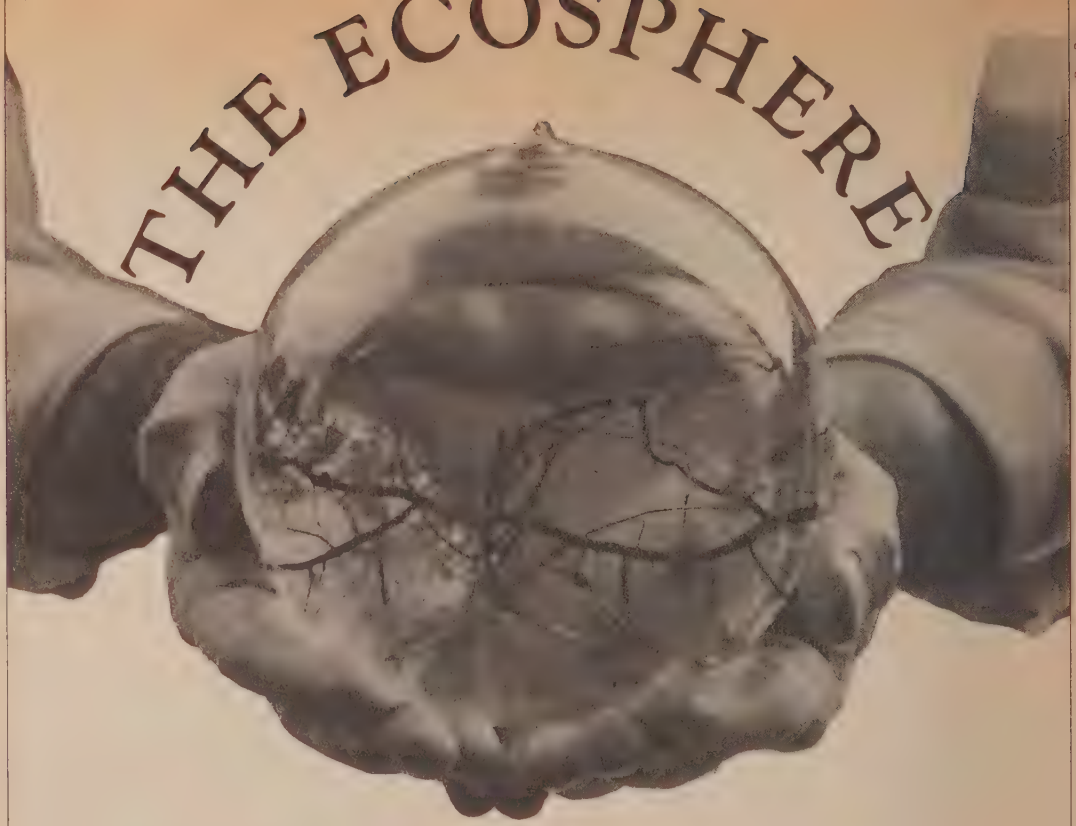
Space Calendar
Steve Durst, Editor
$59/year (52 issues)
from:
Space Age Publishing Foundation
3210 Scott Boulevard
Santa Clara, CA 95054





Power Tower: Chosen as the reference configuration for space station activities, the final Space Station may end up looking something like one of these drawings. (Renderings NASA).

THE ECOSPHERE



Don Ryan

INTRODUCING AN EINSTEINIAN ECOLOGY

by Peter Warshall

The Ecosphere is a totally sealed, transparent glass globe about the size of a Civil War cannonball. Inside dwell four to six shrimp, a "twig" of burnt umber coral, a free-form mass of feathery green algae, and an invisible world of aquatic microbial life. The Ecosphere is quiet, doesn't advertise itself, and demands attentive peering. It has a jewel-like quality. Interior decorators buy them as accent pieces for bankers' desks. A jet-set yuppie, remembering his belly-up guppies, loves his Ecosphere as the perfect pet: a maintenance-free aquarium.

To me, the Ecosphere is beautiful and absorbing the way a Tibetan mandala, casually hung on the living room wall, suddenly speaks of more than Art. I turn to it like kids to Saturday morning cartoons or consciousness to embers, as if the mind, always on a hike, pauses and finds the Ecosphere there for a mental parenthesis.

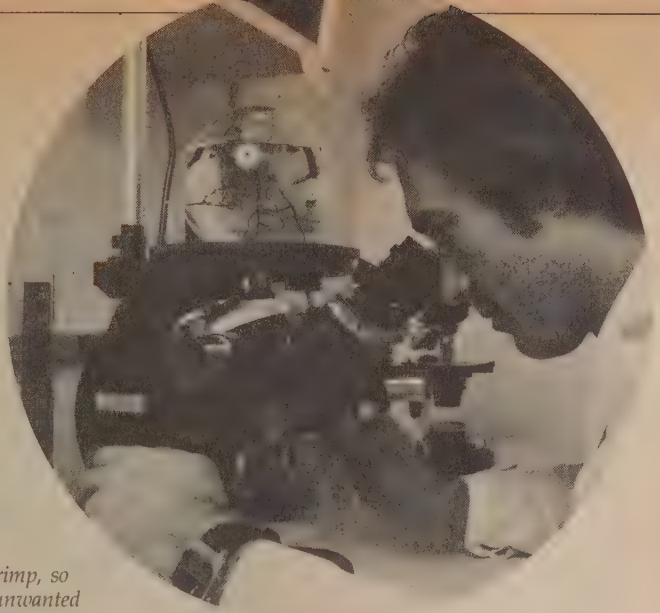
The Ecosphere is the first materially closed, energetically open ecosystem witnessed and created by humans.

Right off, to avoid confusion, the Ecosphere is not a "microcosm." It is not an aquarium or a farm in the woods or a greenhouse. Microcosms are small biological samples of the planet, physically removed from their natural surroundings, but *not* completely isolated from global matter exchange. Microcosms can be affected by the great material gifts that buffer the planet: water, vitamins, minerals, oxygen, carbon dioxide, chlorophyll, etc. The Ecosphere has no buffer, no huge water cycle or feedback loops outside its two-pint interior. We may pretend to dwell in an isolated volume of the biosphere — call it a watershed, a biogeographical region, a county, or a nation — but com-

---

Right at home in the world's tiniest watershed, Peter Warshall is a professional naturalist (leads bird tours internationally) and professional waterist (author of the underground best seller, Septic Tank Practices *[$5.95 from Whole Earth Access]. He first met the Ecosphere and its developers at a Texas conference on space colonization by a group called EcoTechnics. I share his addiction/affection for the shrimp world. If my Ecosphere broke, I would replace it. It's where I look when I'm talking on the phone — it keeps me halfway civil.* —*Stewart Brand*

The Ecosphere is the first materially closed, energetically open ecosystem witnessed and created by humans.



Tom Eglin

Some bacteria are lethal for shrimp, so the spheres are monitored for unwanted microbes on a custom microscope.

pared to the Ecosphere, our lives are inseparable from wildly open-ended material influences.

Our lives are so involved with the exchange and accumulation of material wealth that the material closure can feel very alienating. The Ecosphere thumbs its alembic nose at "more stuff." You can't feed the shrimp. You can't snip off the decaying, dreary brown parts. You can't fiddle with the nonexistent filter, aerator, or pumps. You can't open it up and test the water's warmth with your finger. All you can do, if "do" is an appropriate word, is look and think: materially closed, energetically wide open.

The actual act of closure has a mythological aura. Godlike, the technician pours brackish water, a specially bred strain of alga, chosen shrimp, a coral twig, and his/her carefully prepared microbial soup into the short gooseneck of the transparent sphere. Under the fume hood, a welder's torch flames the glass neck to a glowing 900 °F. The neck melts into a nipple. Iron tongs pinch off the excess glass and the genesis of this particular globe of evolutionary material is complete.

Like so many aspects of the Ecosphere, watching closure elicits grandiose questions. For instance, too much heat and the mini-ecosystem would boil. But less heat could force out the expanding gases and, by lowering the internal pressure of the Ecosphere, make cell membranes burst. Or, closing may trap the expanding air and over-pressurize the shrimp. It is only at rare moments — a scuba diver gets the bends or a friend faints on a mountain top — that we stop to consider the density of the atmosphere. There may have been long periods on Earth when the atmosphere was too rarified for life. The Ecosphere asks: just what is the connection between life and pressure?

As is obvious by now, my first feelings about the Ecosphere focused on the loveliness of the hand-blown glass. Then, that skeptical itch: is glass really impenetrable to all materials except light? Glass, after all, is the super-cooled liquid of silica, the Earth's most plentiful element. Years from now, the glass globe will be warped into the flowing patterns of antique glass because glass, oh so slowly, moves about. Maybe, material closure is a hype? Maybe some molecules sneak through the vitreous membrane. I have been assured by SERBA, the manufacturer, that this is highly unlikely.

Then the old skepticism took a stronger hold: what does "light" signify anyway? I had been taught that light could be viewed either as onrushing waves of radiant energy *or* as little packaged photons zooming through space like a spray of machine-gun bullets. So, after all, I had to wink at "materially closed." From one point of view, the Ecosphere's glass is highly permeable to material, light particles. Particles that the biomolecular net of photosynthesis captures like a spider webs a fly.

Eighteen years ago, exobiologist Clair Folsome sealed the first materially closed, energetically open ecosystem in his lab at the University of Hawaii. Eighteen years later, it lives on . . . looking primordial with crusts of Hunter's green and cream white algae in a Hieronymous Bosch retort. Folsome's simple act answered a simple

Can life persist when the only "input" is sunlight itself? Like most scientific acts of interest, closing the first flask was an act of humor and faith.

Genesis is complete when a glassblower's flame seals out all but light.

question: Can life, community life, persist when the only "input" is sunlight itself? Like most scientific acts of interest, closing the first flask was an act of humor and faith. It held the playful daring: Well, let's not argue. Let's try it. It contained the faith that radiant energy was indeed the organizer and motivator of community life. Since then, Joe Hanson at the Jet Propulsion Lab at Cal Tech, the first to add metazoans (anything more complex than single-cell protozoans), and a few others have shown that almost any combination of microbial species will persist alive for many years in a materially closed system.

By creating the first true isolation of radiant energy from matter (alive and organic as well as dead and mineral), Folsome elegantly invented a real-world analog to Einstein's famous equation. He is the only human to have measured the actual proportion of the sun's light flux available to convert inorganic matter to biological flesh (i.e. photosynthesis) for a living ecosystem. He confirmed the estimates made by other energy-oriented biologists like Odum and Margaleff that 1.3 percent of all the radiant flux washing through the atmosphere can be used for the conversion to bio-materials. The remainder causes havoc or the riveting play of clouds and light. It is this tenuous efficiency of the turquoise planet that has supported all our history, evolutionary and personal.

There is the feeling of too much peacefulness that comes from the Ecosphere. It contrasts starkly with our frantic, daily lives. I have felt like playing the abiotic God. Pick it up and shake it. How's that for an earthquake, you little shrimp! Or I leave the fluorescent light on day and night. Try that change in radiant flux, you slime-eating crustacea. Or maybe we'll just push the limits of life. Fifteen minutes in the 'fridge or a half-hour in the oven. Curdle the proteins like frying an egg. Next week the microwave. Me, Zeus. Me, Thor. Me, Yahweh, Allah, Kali.

Being a nice guy, I transform these urges into more appreciation and thought. Ultimately, the Ecosphere is not the model of the planet Earth. The glass "membrane" differs from the series of global envelopes (magnetosphere, ionosphere, ozonosphere, troposphere) that surrounds and shelters the living biosphere of our planet. In addition, the shrimp will not reproduce. Everytime I pick it up, I hear their conversation, just as cat lovers understand their pets:

Shrimp Hilda: Harry, I can't make the eggs.

Shrimp Harry: We haven't done it in two years. We're getting on.

Shrimp Hilda: It's the light, Harry. It's not like Hawaii. My erotic clock won't set. You know that. I need counterpoint — the right darkness, the right lightness, to feel the urge.

Shrimp Harry (sympathetically): Damn it, those Gods must be crazy. The hall light's been left on again.

Don Ryan

Shrimp (actual size $^3/_8$") grazing on algae. The sphere's creators refuse to identify which species.

I have never been so interested in shrimp. As they swim about — rightside-up, upside-down, backwards — the glass acts as a lens and Sporeater (a shrimp who loves to eat the algae spores) becomes gargantuan, then shrinks to a red dot. I analyze his/her/its employment of all nineteen appendages, body color changes, favorite shade spots, and the definition of shrimp personality. My naturalist love has been shifted by the work of Folsome, Joe Hanson, and others. It is harder to take only the species point of view. I begin to see from the "system's" point of view. This is, of course, hard for Americans who think of The System as something that cracks down on draft-dodgers and poor people or protects criminals that rob innocent citizens. From Kafka to Kesey, the system has always been the bad guy.

In ecology, "ecosystem" has usually been associated with stuffy graduate seminars about Markov chains and Fortran programming. "Abstract" and "system" were pigeonhole bedfellows. My most frequent response was a big, uncovered yawn. Folsome has mixed all this up. His "ecosystem" is neither abstract nor conceptual but very concrete and perceivable. It is a "system" that doesn't require models or weird mathematical assumptions about the nature of Nature but, to the horror of armchair biologists, requires the kind of attention usually found among outdoorsy, field biologists. The old-timey Darwinian love: percepts before concepts, data before algorithms, fieldwork before philosophy. Like natural history, anyone can do it. All you need is one jug of bottled ecology (see *Amateur Closed Systems Network*).*

So, now, when Sporeater, my favorite shrimp, stirs things up, I no longer see s/he/it as simply on a quest for food. No longer is Sporeater on a selfish search for still more packaged energy — like a frenzied shopper running the aisles at Safeway. The algal films wave about in the wake of Sporeater's tail. The sediments slosh around. From the system point of view, Sporeater's energy helps photosynthetic bacteria and algae utilize the maximum volume of photon flux; facilitates the more thorough transfer of elements and molecules along metabolic pathways; encourages the complete cycling of matter; furthers the balance of electrons between the funds of organic and mineral compounds. The shrimp is an agent of the sun, co-evolved to keep the metabolic foodweb humming.

The indirect light of the desert sun in my window blends with the water of the Ecosphere. For a few days, the life/matter/energy transformation becomes one of the recurring meditations of my daily everyday. I try to visualize particles and waves as wavicles. I try out words to describe this new way to describe the natural world — an Einsteinian ecology. I yearn to speak, to seize the symbol, metaphor, or conceptual paraphrase.

In the Ecosphere, a physical volume of radiant light melds, merges, mingles, meshes, tangles, and partially fuses with a biological volume of aquatic algae. The Ecosphere demands the birth of a verb to summarize this metabolic dance of carbon electrifying itself into still more life. ■

* Anyone can pour a volume of Gaia — a scoop of pond or tide pool — into a mayonnaise or apple cider bottle and tightly seal the lid. Anyone can look at color changes, growth or shrinkage of plants, bubble production, or the appearance or disappearance of microbial colonies. In fact, you can play with your own materially closed, energetically open transparent world for the rest of your life. Amateur experimenters can send their reports to *Amateur Closed Systems Network*, c/o Joe Hanson, Jet Propulsion Laboratory, 4800 Oak Grove Drive, Pasadena, CA 91109.

Ecosphere

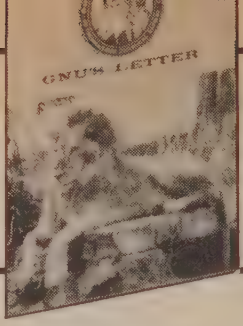
PETER WARSHALL: The Ecosphere must be kept out of direct sunlight or the shrimp molt so fast they consume themselves. The temperature needs to stay between 60°F and 90°F. A lighted support stand is provided for use in dimly lit rooms. Should the algae or shrimp die within the first year, the Ecosphere will be replaced free of charge.

The makers of Ecospheres give general support to all non-profit, educational organizations. Write them if your organization is interested in the educational use or purchase of an Ecosphere.

Ecosphere $250 postpaid from:
Engineering and Research Associates, Inc.
500 North Tucson Blvd., Tucson, AZ 85716

Gnu's Letter

PETER WARSHALL: The beginnings of an Asian Indian educational and conservation magazine. For the moment, lots of zoonooz but hopefully expanding to cover national parks and the needs of the Malabar rain forest, the monsoon forests, and Thar deserts.



Gnu's Letter
Sally Walker and
Krishna Vattam, Editors
$15/year (12 issues)
from Gnu's Letter
c/o Mysore Zoo
Mysore-10, India

Katuah

PETER WARSHALL: Just what the doctor ordered for the great oak-hickory Appalachian Mountains Plateau. A group of dedicated enthusiasts reshaping their view of home. Poetry, kudzu, politics, bears, appropriate technology, and access to local ecology. I wait for their issue on the podzols, glaciers, and human settlement.

•

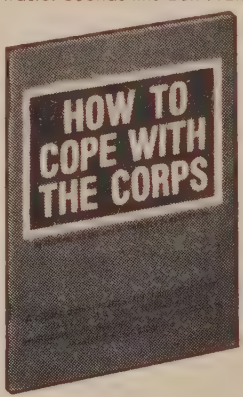
It is said that kudzu is taking over because it's not a "native" plant and it has no natural competitors in the ecology of this geographical area. As a result, a massive program has been in progress to eradicate the fiend using all means possible, especially the intensive use of herbicides such as 2,4-D and Round-Up. Yet kudzu comes back and keeps on keepin' on. . . . Some people claim that indeed kudzu played an important part in helping to save the topsoil of the Southeast from washing into the ocean after hundreds of years of unwise agricultural practices in the region resulted in a massive and devastating erosion process.

Katuah
(Bioregional Journal
of the Southern
Appalachians)
$10/year (4 issues)
from Katuah
P.O. Box 873
Cullowhee, NC 28723

How to Cope With the Corps

PETER WARSHALL: Illustrated by some of the funniest cartoons ever printed about the keep-busy-at-everyone-else's-cost, eager-beaver Army Corps, this pamphlet is also the most practical and thorough citizen-action manual to be written about humongous water projects. If there's a Corps project going on in your river basin or a neighboring one, buy this publication. This is not Monkey Wrench Gang romanticism. It's not even against water development. But its heart yearns to stop environmental destruction and economic waste. Sounds like Ben Franklin to me.

How to Cope With the Corps
by Marvin Zeldin and
W. Carlyle Blakeney, Jr.
1982; 63 pp.
$5
postpaid from:
Ecopress
P.O. Box 786
Charleston, SC
29402



"THE U.S. CORPS OF ENGINEERS BUILDS DAMS TO SLOW THE FLOW OF WATER."
"THEN IT STRAIGHTENS OUT RIVERS TO SPEED UP THE FLOW."
"IT PERMANENTLY FLOODS LAND UPSTREAM..."
...TO PREVENT OCCASIONAL FLOODING DOWNSTREAM."
KEEP BUSY
"ANY QUESTIONS?"

George Fisher and the Arkansas Gazette

Scientific Event Alert Network Bulletin

PETER WARSHALL: This is the news service for fire 'n' rock addicts. Hot updates on volcanic activity, earthquakes, meteorite falls, and fireballs. Technical monthly on the jazzercise of the planet's crust.

Scientific Event Alert Network Bulletin

$18/year (12 issues) from:
Circulation Department, American Geophysical Union
2000 Florida Ave. N.W., Washington, DC 20009

•

On 11 April Fernandina Caldera, Galapagos Islands, was climbed from the NW by David Day and L. Peterson, who reported an apparently inactive lava flow reaching from the western side of the caldera (near the site of the major eruption of 1968) to the lake. At 0650 the next morning, Day and Peterson heard a noise "like a large landslide" from their camp near the western caldera rim. Within 30 seconds, they reached the rim in time to see what Day described as a nuée ardente that had already moved from the vent area halfway to the lake. They left the rim and observers from Punta Espinoza, 17 km to the NE, described an eruptive cloud rising at 0655 to an estimated height of 7 km. At 0704, Day and Peterson were overtaken by an ash rain described as "raindrops with ash" and total darkness persisted until 0720.

Probe Post

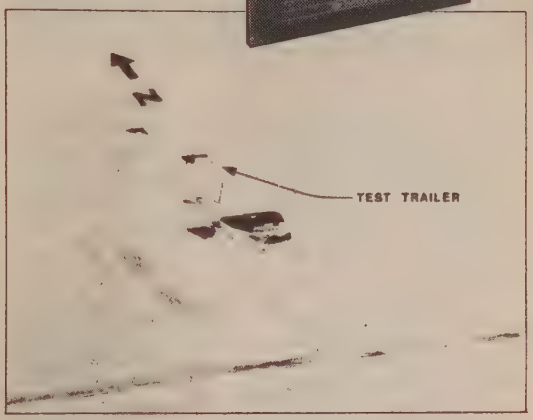
CAROL VAN STRUM: Like the curlew and the whooping crane, pollution recognizes no international boundaries. Many of Canada's environmental problems are caused by toxic pollutants from the U.S., such as acid rain and industrial wastes carried in wind, water, and wildlife across the border. As if this were not enough, the Canadian government actually imports pollutants by permitting U.S. industries to dump toxic wastes on Canadian soil, by allowing the U.S. military to test chemical and biological warfare technologies in the Canadian wilderness, and by encouraging agricultural practices dependent on American pesticides.

***Probe Post** reflects growing concern over the degradation of the environment among a diverse and articulate community in Canada. The magazine is outstanding among environmental publications in North America. Factually sound reporting, appropriate and informative advertising, and uniformly good writing characterize every issue, with a decided focus on solutions and preventive innovation. The magazine offers American readers a fresh perspective on modern technology and its impacts on the continent we all share.*

•

More than 800 chemicals have been identified in the Great Lakes, where a number of fish species are suffering not only from cancer, but from other kinds of health problems as well. Coho salmon, for example, have developed a number of disorders, including hyperthyroidism and goiters. Lake Erie coho appear to be the worst off, with almost 100 percent of them exhibiting goiters. The salmon in all the lakes are also experiencing severe reproductive failure, which is why the lakes have to be restocked every year. . . . Carp, goldfish and carp-goldfish hybrid population in lakes Michigan, Huron, Erie, and Ontario show up to a 100 percent incidence of tumourous growths on their reproductive organs. Museum specimens of the same species taken from some of the same areas 30 years ago show no tumours at all.

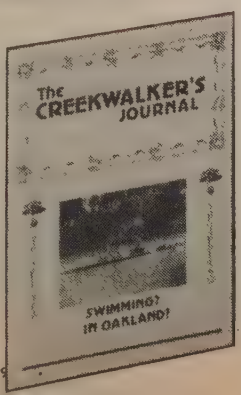
Probe Post
Gail Richardson,
Managing Editor
$10/year (6 issues)
from:
Probe Post
12 Madison Avenue
Toronto, Ontario
M5R 2S1



Unsheltered test trailer site (above); in the sheltered site (below), the trailer used 22.3 percent less electricity.

The Creekwalker's Journal

*PETER WARSHALL: This is the best creekshed/watershed, very local newsletter. For lovers of other streaming, clear waters, **Creekwalker's Journal** provides the model. As editor Judith Goldsmith says in her letter to the **WER**: "Creek-lovers once ashamed to admit their true feelings, or battling single-handedly to save their neighborhood ecosystem, have been coming out of the woodwork." North Carolina's "Stream-Watch" program and a similar program in Maryland are further examples of creek stretches that have been claimed for future care.*



The Creekwalker's Journal
Judith Goldsmith, Editor
$5 /6 issues
from:
Judith Goldsmith
3776 Manila Avenue
Oakland, CA 94609

•

Nine Reasons for Not Culverting a Creek

1. Flooding has not been a major problem in parts of the Bay Area for many years (except from culverts clogging up); most creek problems involve erosion, which can be dealt with in other ways.

2. Culverting is not cost effective; in fact, it is the most expensive way to solve creek problems.

3. Serious problems, such as further erosion and flooding, often develop upstream and downstream of a culvert.

4. Culverts can be extremely unsafe on or near earthquake fault lines.

5. In Mediterranean climates (such as California's) silting-up of culverts is a major problem, so continuous costly dredging may be required.

6. The straight line created by culverting causes more chance of an overload than does a creek's natural meander (due to the increased velocity of flow).

7. Culverting destroys habitats of fish and animals.

8. Culverting prevents the renewal of ground water to adjacent wetlands.

9. Culverting destroys areas of natural beauty, places that are great playgrounds for neighborhood children and natural park resources.

Meeting the Expectations of the Land

RICHARD NILSEN: The title of this collection of essays about sustainable agriculture conveys an apt reversal. A line from Robert Frost might help: "The land was ours before we were the land's." The ideas here are visionary in that they look both forward and backward in time, but lest you think the book advocates a retreat to agricultural animism, it is worth emphasizing that these ideas are also very practical. You won't find them in use on most American farms today because there the emphasis has been on productivity and profits.

Profits? Even if your news from the farm comes only from the TV, you know you can forget about "profits" in farming. And productivity? Sure, that's there, but it is the same kind you find in a coal mine. When the coal is gone you shut it down and move on. When the topsoil is gone, or the soil is salted out from irrigation, where do you go?

You go to a kind of agriculture that can sustain; not only the land, but also the life on it and in it, as well as the people who work it and those who depend on them for food. This book is full of clues to that, of men and women standing on the edges, pointing. Many of the contributors have appeared in this magazine — Wes Jackson, Wendell Berry, Amory Lovins, John Todd, Gary Snyder, Gary Nabhan. And some of the material has as well. Much of what is here, however hypothetical or conjectural, will become the conventional wisdom of the next generation.

■

Because he won't borrow big money, the traditional farmer is content with a small farm, smaller at least than the "factories in the field." He prefers a small farm anyway, choosing to use biological energy in place of machine energy whenever practical, just as all craftspeople do. Biological energy is limited in quantity and quality, whether one is making milk or making furniture. But the actual size of the individual traditional farm can therefore vary for the same reason: one farmer, like one cabinetmaker, has more skill, more energy, more desire than another. I once asked an Amish farmer who had only twenty-six acres why he didn't acquire a bit more land. He looked around at his ten fine cows, his sons hoeing the corn with him, his spring water running continuously by gravity through house and barn, his few fat hogs, his sturdy buildings, his good wife heaping the table with food, his fine flock of hens, his plot of tobacco and acre of strawberries, his handmade hickory chairs (which he sold for all the extra cash he really needed), and he said, "Well, I'm just not smart enough to farm any more than this *well*." I have a hunch no one could.

—Gene Logsdon

■

And so, one of the reasons it is impossible to give a full description of a good farmer's mind is that the mind of a good farmer is inseparable from his farm; or, to state it the opposite way, a farm as a human artifact is inseparable from the mind that makes and uses it. The two are one.

—Wendell Berry

Meeting the Expectations of the Land
(Essays in Sustainable Agriculture and Stewardship)
Wes Jackson, Wendell Berry, and Bruce Colman, Editors
1985; 320 pp.
$12.50
postpaid from:
North Point Press
850 Talbot Avenue
Berkeley, CA 94706
or Whole Earth Access

Beyond Geography

*JAY KINNEY: This book has achieved something of a cult status in the same circles that early on discovered the virtues of Lewis Hyde's analysis of gift-exchange ("The Gift Must Always Move," **CQ** Fall '82), and with good reason. Like Hyde, Frederick Turner has the knack for summoning up non-Western cultures and making us see our unconscious cultural and political baggage through others' eyes.*

***Beyond Geography** charts the trajectory of "the Western spirit" from its inception in the sun-whipped desert cultures of the Middle East to its fateful emergence out of the timeless cycles of myth into linear history, and the subsequent push to confront and tame the wilderness of the New World. Christianity and its interpreters play a central — and rarely salutary — role in this tale, and yet Turner is not unsympathetic to the spiritual needs which this European Christianity addressed, in however flawed and even fatal a manner. Turner's is a cross-disciplinary book not only using first-person accounts from settlers and Indians, but drawing insights from Thoreau, Eliade, Jung, Shakespeare, as well as numerous historians. The end result is a combined overview and underview of how we arrived at our current uneasy juncture, and Turner does us the favor of helping us to recapture the feelings flattened by the easy myths of brave colonists or the wild West. That Turner writes well, with a turn of phrase often approaching the poetic, is an additional bonus.*

●

Every environment encourages a special mythology. . . . Here in the Near East the hard-won evolution from encampments to villages to the towns that eventually grew into large cities — achieved over thousands of years in a difficult environment — nurtured the belief that "civilization" meant the walled, blocked, and grain-stocked city and that civilization could only be achieved and perilously maintained by unremitting hand-to-hand combat with a nature that would of itself grant little. *Margin*, that which protected civilized man from nature's caprices, that which separated culture from the wild and uncultivated, was the work of human hands, assisted not by the earth, which was hostile, but by the gods of the sky — far removed from earth.

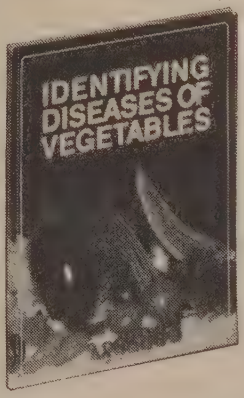
■

The dread of being entered into and taken over by malign spirits is not limited to Christian civilization but is in fact widespread and has been found among many cultures living in intimate connection with the natural world. But in Christian civilization possession is wholly negative in imputation, whereas in many native cultures possession is actively sought. . . . No. The thing to do was to *take* possession without becoming possessed: to take secure hold on the lands beyond and yet hold them at a rigidly maintained spiritual distance. It was never to merge, to mingle, to marry. To do so was to become an apostate from Christian history and so be lost in an eternal wilderness.

Beyond Geography
(The Western Spirit Against the Wilderness)
Frederick Turner
1980; 347 pp.
$12.45
postpaid from:
Rutgers University Press
P. O. Box 4869
Hampden Station
Baltimore, MD 21211
or Whole Earth Access

Identifying Diseases of Vegetables

RICHARD NILSEN: This book sets itself a narrow purpose and achieves it very well. It gives brief and nontechnical descriptions of the major diseases of common garden vegetables and illustrates each one with a high-quality color photograph. It does not prescribe cures of any kind, although from the explanations of environmental conditions that some diseases prefer — such as cool, wet weather or poorly drained soils — you may get clues as to what went wrong in your case. The ease of access, brevity, and price make this a good book for home gardners. If this book needed a subtitle it would be "Keeping Ahead of the Fungi."



Identifying Diseases of Vegetables
A.A. McNab, A.F. Sherf, and J.K. Springer
1983; 64 pp.
$8
postpaid from:
The Pennsylvania State University
Vegetable Diseases
P.O. Box 6000
University Park, PA 16802
or Whole Earth Access

•

CABBAGE FAMILY

BLACK LEG is caused by the fungus *Phoma (Plenodomus) lingam*. Symptoms begin as dark sunken cankers at the base of the stem and as light brown circular leaf spots. Stem cankers enlarge and girdle stems, causing plants to wilt. A diagnostic feature of black leg is the presence of distinct black pycnidia (speck-size fungus reproductive

Black Leg

structures) within stem cankers and leaf spots. The causal fungus overwinters on seed and in residue from diseased plants; the fungus can persist in residue for 2 to 3 years. The fungus can be carried on seed and on transplants; it can be spread within fields when diseased and healthy plants are dipped in the same water, when workers and implements move through fields that include diseased plants, and by splashing and running contaminated water.

•

STORAGE ROTS of carrots are caused by fungi and bacteria. In a New York study, crater rot caused by the fungus *Rhizoctonia carotae* caused the most rot during the first 4 months of storage. . . . The study revealed that the single most important factor affecting losses from storage rots was speed of cooling after harvest. The more rapidly carrots were cooled to the 31 or 32°F storage temperature, the less rot that developed. Soil moisture conditions and mechanical injury also affected incidence of rot. More rot developed in stored carrots from poorly drained than from well-drained soil. Carrots mechanically injured during harvest and during preparation for storage were more likely to develop rot. High relative humidity, a requirement for long-term storage, did not result in excessive rot in carrots cooled promptly after harvest. Storage crates were not an important source of disease organisms.

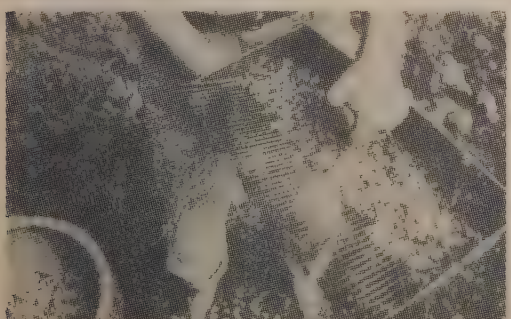
Rhizoc
Crater

Herbal Bounty!

RICHARD NILSEN: Steven Foster has been growing herbs for many years in both Maine and now the Ozarks, and he has written a book long on information and short on hype — a refreshing departure in this genre. There are details on how to grow, dry, and use 124 herbs along with fair black and white photos and good line drawings. The tone of pompous condescension that infests too many horticultural books is absent here, making it an excellent choice for beginners. Lest those of you with herb gardens already shy away, it needs to be said that this author has spent time in his library and his garden, and has produced a gardening book that will not offend a botanist.

•

Herb drying is an art, and book knowledge is no substitute for practical experience.



A blueberry rake works well for harvesting camomile blossoms.

Herbal Bounty!
(The Gentle Art of Herb Culture)
Steven Foster
1984; 192 pp.
$13.45
postpaid from:
Peregrine Smith, Inc.
P.O. Box 667
Layton, UT 84041
or Whole Earth Access

Herbs should be dried in the shade. Direct sunlight will cause leaves to turn dark brown or black. The object in herb drying should be to retain as much of the original flavor, fragrance, and color of the fresh herbs as possible.

Rapid evaporation of the essential oil or changes in its chemical constituents may occur if an herb is dried at temperatures exceeding 90° F. If heat is forced too quickly over the outer cells of a leaf, those cells may harden before they can be replaced by moisture from the leaf's inner tissue, thereby sealing moisture in the leaf and causing it to mold in storage. Air temperatures should be kept relatively low at first (80° to 85° F.) then increased when the plant material is almost dry. Temperature control and continuous air flow over plant material are the most important factors for efficient drying.

•

Digitalis glycosides are used to treat congestive heart failure, as they increase the force of heart contractions while providing rest between the contractions. They also raise low blood pressure.

Foxglove. *Digitalis purpurea L.*
(dij-i-ta'-lis pur-pur-ee'-a)
Scrophulariaceae — Figwort Family

ANARCHY THAT WORKS

When designing a fast-changing world, a little chaos helps.

by Szanto

ECONOMIC MIRACLES MAKE GOOD PRESS. In the sixties the economic miracle that grabbed world attention was Germany. The most recent economic miracle, of course, is Japan. A whole industry has developed to explain the Japanese success story. Miracles almost always require some mysterious secret which only the author can reveal. If you too discover the magic secret, miraculous success will almost surely be yours. In some cases the Japanese secret is the visible hand of the Ministry of Trade and Industry (MITI), or sometimes it is related to the less overt secrets of a warrior culture. Unfortunately, reality is rarely that simple. Economic success is usually the result of a complex of forces and conditions including culture, social fabric, industrial structure, government policy, and the circumstances of the times. The story of Japan's success is certainly much more complex than most of the books offering instant cures to U.S. industry would have you believe. By focusing on miracles and the miracle workers behind them we miss the much more subtle processes at work in the real world. Nowhere is this more evident than in the largely unnoticed success story of Italy. Where most of Europe is infected with stagnation and pessimism, Italy is dynamic and forward-looking. For the U.S., Italy may be a more interesting case than Japan.

There is a very thin line between chaos and vitality. The churning face of Italian economic and political life is often taken to be a sign of chaos beneath the surface.

Italy may be the best case of anarchy yet to be found, for the reality is not chaos but vitality. And it is worth trying to understand how the disordered process of change produces progress and not breakdown.

Not far north of Venice is the small city of Trevizo, outside of which lies the village of Ponzano. Where the old village gives way to the rich farmlands of northern Italy, an elegant white seventeenth-century villa sits hard against a modern factory, and together they form the hub of one of Italy's most remarkable success stories. That perfectly-restored villa with fading heroic frescoes in cathedral-like vaulted chambers, terrazzo tile floors scattered with rich Persian rugs, and the clean elegance of modern Italian furniture and the factory with its robotic production systems and computerized warehouses are the center of the Benetton chain of clothing stores. This year their 3000 affiliated stores worldwide will buy some $400,000,000 worth of brightly colored clothing from Benetton. The story of the Benetton family and their company exemplifies the potential of Italy.

Italicus scissors mfg. by Ermenegildo Collini

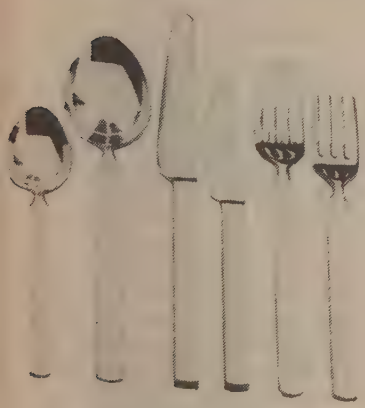
Bamboo wine holder mfg. by Nardi Felice-Mogliano

The three brothers and one sister of the Benetton family were orphaned when the eldest brother, Luciano, was ten. To support his younger brothers and sister he went to work as a runner in the textile mills near Trevizo. Soon sister Giuliana went to work sewing sweaters. She began to make a few of her own, more brightly colored than the typical muted shades of the factories. Luciano was already a wholesaler for a number of the region's artisans and noticed the popularity of his sister's designs among his young friends. Together Luciano and Giuliana Benetton started their manufacturing and sales business in 1965. As they grew up, the two younger brothers, Gilberto and Carlo, also joined up. Gilberto is now in charge of finance and administration, and Carlo runs the factory.

Aside from the beginning, the

As more of the planet's nations tiptoe into the new genre — a high-tech, mass-development, informed economy — that was once our own private sandbox, there are others to watch and learn from. Our real intelligence agent Szanto finds the new Romans in Italy particularly clever. —*Kevin Kelly*

key moment in the history of Benetton came in 1978 — a watershed year for all of Italy. Until then Benetton had been a small company with one factory and a few shops in northern Italy. As in much of Europe during the seventies, labor gained great strength, wages rose rapidly, strikes were common, and in Italy legislators had instituted the Scala Mobilia — not an opera, but a system of wage indexing to keep wages ahead of the inflation that was adding more zeros to the lira every year. Labor unrest was growing and a more fundamental unrest was threatening the Italian social fabric. The Red Brigade — who made the Weathermen in the U.S. look like Quakers — were gaining strength and becoming ever more violent. In this climate few businesses were willing or able to expand. To take on new workers almost surely meant more headaches or perhaps even the loss of a kneecap if the Red Brigade didn't like your production methods. It meant you couldn't modernize factories for fear of antagonizing labor. It meant you couldn't close aging factories with the attendant loss of jobs without fear for your life.



Flatware mfg. by Alessi

As a result, Italian products increasingly became like British goods — low quality and high prices. Fiat cars were a typical case. As sales fell, workers couldn't be let go so costs per unit went up and sales fell even further. Fiat teetered on the brink of collapse. The story was repeated all over industrial Italy.

In 1978 the strikes and the violence mushroomed. Looking back now most Italians describe the mood of the nation as being up against the wall. The country seemed on the verge of collapsing. But it didn't. The crisis became a moment of profound change, not breakdown. What had only been the appearance of chaos now threatened to become the reality of anarchy. This feeling of being on the edge was deeply felt and widely shared.

"Italy's crisis became a moment of profound change, not breakdown."

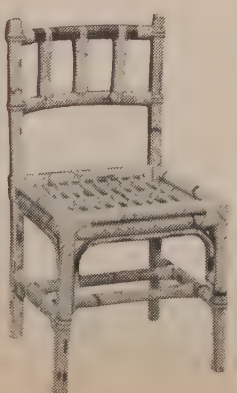
There was a dramatic change in the attitudes of workers and managers. Old businesses were revitalized and new businesses created. Employment increased, inflation fell, and export sales accelerated. From a distance the dramatic nature of the change appears nearly miraculous. But — as when a magician pulls a rabbit out of a hat, the rabbit has to be there in the first place — the potential for the change was already there.

It was in 1978 that Benetton began to modernize and expand their business. Until then labor agreements had forced them to make all of their own goods under tight labor control of production processes. In the interest of survival, the unions began to relax their control. Some factories closed. But the Italian government had created the "Casa Integrezione," a special kind of unemployment benefit that was oriented toward retraining and making money available for starting new businesses. Benetton increasingly began to farm out its manufacturing to contractors, many of which were owned or run by former factory employees who knew what Benetton wanted. Today they actually manufacture only 15 percent of their total output. Of course that 15 percent is itself much larger than their total production before 1978. And despite the fact that their own manufacturing operation is highly automated, they have many more employees of their own today than they did in 1978, because sales have risen from $78 million to $400 million.

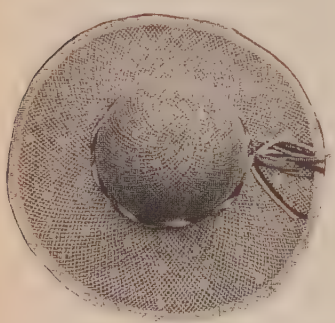
Arcobaleno lamp mfg. by Compagnia Italiana Lumi

The Benetton concept relies on

Bamboo chair mfg. by Tamburini Nazzareno, Mogliano



several key ideas. First of all, their market is the youth of the world who like to wear unofficial "uniforms" distinguished by the color of the moment. Thus, Benetton uses a computer information system to keep close tabs on what colors are hot right now. They leave a significant part of their production run uncolored and, using their own automated factories, quickly dye that production to whatever color is the color of the week. Benetton does not own franchises in their 3000 stores. The relationship is quite informal. Store owners do not have to buy Benetton — this forces Benetton to remain competitive — but if they do they have to conform to the Benetton style and marketing approach. Benetton also relies heavily on the shops for information. They are the main source of market intelligence. The successful balance of old and new methods, of small scale and large scale, of formality and informality imaginatively and boldly applied in a family context makes Benetton more typical than exceptional.



Straw hat mfg. by Di Ciccarelli & Quinzi, Falerone

Italy is capable of change and Italy works — why? What is it that keeps Italy on the right side of the thin line between chaos and vitality, that permits it to do what its more rigid neighbors to the north seem unable to do? The reasons lie in a complex of factors. Among the most important is the strength of the family. When all else fails, when things seem on the verge of collapse, it is the family that provides cohesion and order. When a worker loses a job it is the family that he turns to for support and not the government. When he sets out to create something new it is not venture capitalists but the family and its savings that venture with him. They rise and fall together. Brothers, sisters, cousins, aunts, uncles, and grandparents — the texture of kinship is what binds Italy together, and not the formal structures of laws and institutions, though the church plays a contributing role in strengthening the family and providing a common framework for the disparate peoples of the Italian peninsula.

"The underground economy provides room for maneuvering in Italy's bureaucracy."

Italy as a nation is only a century old. Surrounded by the remnants of antiquity, it is easy to forget that there was no Italy at the time of the U.S. Civil War. Instead, fractious kingdoms and city states, regularly invaded from the north, dominated the landscape between the collapse of the Roman Empire and the birth of the Italian nation-state through Garibaldi's war of internal conquest in the mid-nineteenth century. Italians still have no great love for that state headquartered in Rome. It is a necessary evil of the modern world, but not something to which one should attach any sense of loyalty or devotion. People are Milanese, Venetians,

Copper coffee pot mfg. by Battista Mazzoleni, Morbegno

Piedmontese, Lombardians, Sicilians, and Romans — but Italians, that's quite another thing. Paying taxes to Rome is among the necessary evils, but an evil it most surely is. Evils are, of course, to be avoided. Few people are as skillful as the Italians at tax evasion. No one regards tax evasion as wrong — it is simply redressing an injustice. Only in Italy is it that tax authorities cannot get access to a person's bank records without a writ from the courts.

Another major factor is how recent the shift from agriculture to industry has been. In most industrialized countries this shift from life on the land to life in the industrial city began well before World War II. In Italy it is only two decades old. Half of Italy's workers began their working lives in the fields. The attitudes of an agricultural economy are still deeply ingrained. Among other things this means that Italians tend to save much more than Americans. In this they are similar to the Japanese, saving 15 to 20 per cent of their incomes compared to 4 to 6 percent in the U.S. Thus, though Italians avoid taxes, leaving their government in the red more often than Americans, their savings invested in the banks get lent to the government. So, in typical Italian fashion, they make money out of funding their own deficit.

Fantasia is a word that defies

Suede calfskin glove mfg. by Guantificio Bossi, Milano

literal translation. "Creative imagination" comes close, but it is not fantasy. Fantasia is a quality of Italians that lies behind Italian art and design, that is the source of the entrepreneurial spirit. Italians are abundantly possessed of *fantasia* — they see possibilities, they can imagine the new. It is balanced by a strong sense of realism — what can actually be done. In some European countries businesses are spending one-tenth of what the U.S. spends on research and development, but have the fantasy that they can compete on even terms. In Italy no such illusion exists. They haven't the resources — money or people — to play the same game, and they know it. Instead, they describe themselves as "fast followers," being alert to what's happening and moving quickly to pick it up. They don't care where the technology was invented as long as they can find a way to commercially exploit it.

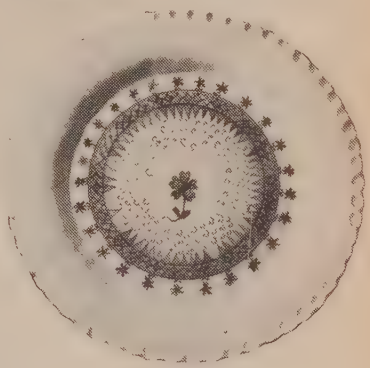
Leather pouchette mfg. by Santagostini Carlo, Milano

In no other major country in the world is economic reality so divorced from the official reality as measured by economic statistics. In Italy the underground or informal or black economy is at least 30 per cent of the total picture. The formal statistics measure the transactions of the big companies, the state enterprises, the big banks — the tax-paying entities. But underneath is a huge vibrant economy of small businesses, family companies that are never registered and regulated, that no one measures, and that pay no taxes. When wage restrictions halt the growth of workers' wages, they moonlight to help launch their cousins' new businesses. Furniture, leather goods, decorative tiles, and even steelmaking in the city of Brescia near Milan are all part of the small businesses of the informal economy. The underground economy has its dark side in exploitation, child labor, and terrible working conditions. But it provides another safety net for workers that gives them a sense of control over their own lives in a way that state

"The Italians make money out of funding their own deficit."

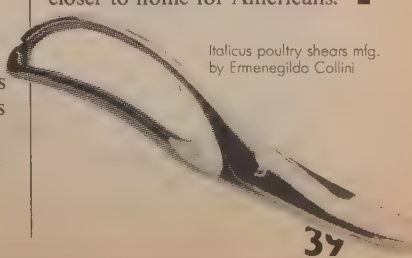
benefits never will. It provides room for maneuvering in the Italian economy that vast government and corporate bureaucracies can never create.

During the fifties and sixties — two decades of stable economic growth and expansion — the European countries like Germany, Britain, and the Netherlands, all dominated by very formal and highly structured social and governmental systems, did quite well. Now, in an era requiring great change, they are struggling as their past success becomes the greatest enemy of change. Those who have gained from that success have erected a vast edifice of laws and institutions to protect their gains. But the world changes and such systems rarely do. They are finding the process of change almost impossible. Italy, on the other hand, has had more than one new government every year since the end of the war. To the northern European this is seen as a sign of chaos. In reality the informal structures underneath lead to a much greater reality of stability without creating the barriers to further change. Americans rightly mistrust the big state.



Ceramic plate mfg. by Ceramiche di Annarosa, Bientina

They cannot look to Washington as a source of change — the moribund bureaucrats in the grey tombs of the endless alphabet departments have long ago lost sight of why they came to be there in the first place. Securing next year's budget allocation is vastly more important than the reality of public service. If American businessmen want a model more attuned to the realities of a diverse culture that resists formal order they would be wise to visit Italy rather than the lingering order of feudal Japan. In the families, communities, and small businesses of America a new world is constantly being created that has little to do with national policies and grand designs. Maybe the Germans have something to learn from the Japanese, but Italy is far closer to home for Americans. ■



Italicus poultry shears mfg. by Ermenegildo Collini

Essential Small Business Reading

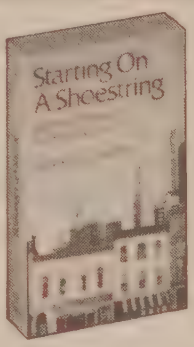
by Bernard Kamoroff

So you wanna start your own small business? A half-million people do just that every year, and a hefty majority of these people go bankrupt within a year. Why? For businesses started by novices, probably the Number One reason for first-year business failure is a lack of foresight. The people just didn't think their ideas through very well. They didn't do any "market research," which is just a fancy term for "look before you leap."

It's a real shame, too, because a few nights' reading with a few well-chosen books probably would have saved a lot of these failed businesses. An interesting Small Business Administration study of 81 new small businesses showed that only 1 owner in 81 read any management literature. Sixty-one of those 81 businesses failed. There are thousands of defunct businesses gone belly-up because of the same errors repeated over and over again. I guess it's just human nature to want to learn from your own mistakes.

Starting On A Shoestring

*My current favorite business book is **Starting On A Shoestring**. I've known for a long time that starting a business with little or no money is not only possible, it happens all the time. I started two businesses that way; many of my tax clients were small businesses whose start-up capital bordered on zero. This book spells out how it's done better than any other I've seen. The book is equally useful for people who have a lot of money to start a business. Business success really has little to do with how much money you do or don't have. It has more to do with common sense and, as I already mentioned, alookin' before you go aleapin'. Mr. Goldstein knows what he's talking about, and he covers his subject well, with humor and wisdom.*



Starting On A Shoestring
(Building a Business Without a Bankroll)
Arnold S. Goldstein
1984; 303 pp.
$13.95
postpaid from:
John Wiley and Sons
Attn.: Order Department
1530 South Redwood Rd.
Salt Lake City, UT 84104
or Whole Earth Access

•

You can start a business with one-tenth the capital normally required (or even no cash at all), but in return you must work ten times as hard to make it succeed.

•

Most people think money is the number one priority in selecting a business. Put it on the bottom of your list. The psychic rewards — enjoyment — head the list. When you enjoy your business, the success and money are bound to follow, but it never quite works in reverse. And if you happen to make serious money in a business you don't enjoy, I'll guarantee you'd make twice the money in a business — any business — that does get your adrenalin flowing.

•

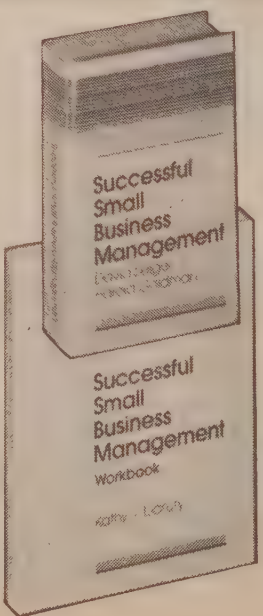
MBA students at Suffolk University Business School surveyed start-ups to determine the relationship of rent and equipment costs to profits and success. The most successful businesses had the lowest rent and capital equipment costs. The study went further: 92% of the businesses examined could have started on an appreciably less expensive scale, with no anticipated drop in sales but with a healthy jump in profits. The big spenders were everywhere. With a tighter purse string they would now have a fatter purse.

Successful Small Business Management

It is a fact that certain types of people are likely to succeed in a business, while others in that same business will fail. It has a lot to do with the owner's personality, ambition, temperament, and other "human" traits.

This excellent 340-page book identifies and discusses these "human traits" in a logical and well-organized manner. It covers pre-start-up, getting started, different types of businesses, pricing, selling, advertising, and even accounting from the personal perspective of the business owner.

The authors emphasize that you need to understand the common-sense basics of operating a business (which they explain well) but that you also need to offer a quality product or service, and that you need to treat your customers honestly and with respect.



Successful Small Business Management
David Seigel and Harold L. Goldman
1982; 346 pp.
$17.50

Successful Small Business Management Workbook
Kathy J. Daruty
1982; 232 pp.
$11.00

both postpaid from:
Fairchild Books,
Attn.: Book Division
7 East 12th Street
New York, NY 10003
or Whole Earth Access

•

It is important to remember the nature of this two-way financial street. When raising capital, you will have to "play the street game." You must make your package attractive enough to raise your needed capital, while always being wary of how these "attractions" may cost you and endanger the chances of using your funds profitably.

If you'd rather learn about small business a little less painfully, a precious small handful of books are out there with excellent information for the person who has no experience. These are books to be read while you're still contemplating your venture, long before you ever open your doors.

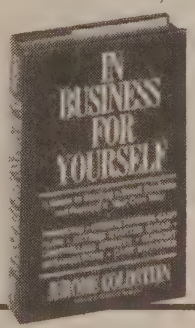
Most small-business management books will be of real value only to people already operating a business. Trying to assimilate management or marketing advice without first having some business experience can be compared to reading a car repair manual without having a car to work on. But when you are ready, head for the library stacks. Almost every library in the country has at least ten books on business management. Some of the books are excellent, some are shallow, but all of them have *something* worthwhile to offer. Tax laws and government regulations change constantly, so any tax guide over a year old is guaranteed obsolete. But the basics of business management never change; an old book you might discover collecting dust in the library is likely to be just as valuable as a book just published. I found one of my favorite books, J. K. Lasser's *How to Run a Small Business*, published by McGraw-Hill in 1955,* in the Berkeley Public Library. It hadn't been checked out in over four years. ■

*Still in print, $22.50 postpaid from McGraw Hill, Attn: Order Department, Princeton Road, Hightstown, NJ 08520 or Whole Earth Access.

In Business for Yourself

Jerry Goldstein is editor and publisher of ***In Business*** *magazine ($14/year [six issues] from* ***In Business****, P. O. Box 323, Emmaus, PA 18049). This book is mostly reprints from* ***In Business****, "capsule profiles" of actual small businesses. There is always a lot to be learned from others who have already gone down the small-business path. The book is enjoyable, easy reading, the magazine encouraging, helpful.*

In Business for Yourself
Jerome Goldstein
1982; 187 pp.
$9.45
postpaid from:
The Scribner Bookstore
Attn.: Mail Order
597 Fifth Avenue
New York, NY 10017
or Whole Earth Access



•

Nestled in the heart of historic Georgetown in Washington, D.C., the Red Balloon is a refreshing alternative to the supermarket-like toy emporiums sprouting up all over American suburbia. Proprietors Bob and Linda Joy opened their toy store nine years ago, after a five-year stint in the Peace Corps. While toys have changed a great deal in the last ten years, the philosophy behind the Red Balloon hasn't. "We decided we wanted to go into the toy business with the concept of finding the best things that we could for kids, be they toys, tools, science objects, or whatever. We wanted the safest and most interesting toys we could find, in terms of design and value. And we still follow basically the same premise today."

•

Jim Lampman will match his fresh handmade truffles and chocolates against any European import and our guess is — he'd win. "The good accounts are doing about $20,000 to $25,000 in sales of our chocolates a year, and we've just opened a new one that we expect will do between $40,000 and $50,000."

Setting Up Shop

This book covers nothing new, though there is some very useful information here. However, it's clever and witty and one of the only business books I've ever actually enjoyed reading.

•

You're Never Really Going To Be The Boss

This is going to be short and not very sweet. Many people, places, and things are going to make significant demands on your time and talents as the owner-operator of a business. These include your customers, your employees, and the people to whom you owe money — and you will owe money. In a very special way, they all become your "bosses."

•

The "typical" small business owner does everything wrong when it comes to banking. He or she doesn't know anyone in the bank on a first-name basis, never mind being one of the manager's buddies. Mr. or Ms. Business Owner has never taken the time or trouble to meet the branch manager or the loan officer, or even been sensible enough to try to use the same teller window each time deposits or withdrawals were made.

Most small business owners send someone else to the bank to make routine deposits and conduct the day-to-day banking business of the firm. Instead they should be taking this opportunity to become a recognized and valued customer by handling this chore personally at least several times a month.

Again, the average business owner only approaches the bank when it is necessary to borrow money. And that's the very worst way to approach a bank for the first time.

•

If the rent's low, your advertising costs will be high. That theorem can almost always be reversed. High rent usually reduces the advertising budget you will need.

A good rule of thumb here is that if the customer must find you, be easy to find.

•

If you are a person who absolutely detests working with figures, it is highly unlikely that you will do justice to the necessary task at hand. Get someone else to do it. It's that simple. You should, however, understand and oversee the record-keeping process for your firm.

It would then follow that your business would be better-served by your generating income and using a small portion of that income to pay someone else to keep the books.

Setting Up Shop
(The Dos and Don'ts of Starting a Small Business)
Randy Baca Smith
1982; 287 pp.
$25.95
postpaid from:
McGraw-Hill
Book Company
Attn.: Order Department
Princeton Road
Hightstown, NJ 08520
or Whole Earth Access

How to Start and Operate a Mail-Order Business

BERNARD KAMAROFF: If you want to start a mail-order business, don't do anything until you read this 553-page book. It's been selling steadily for years. It is a thorough, in-depth study of mail order. It is, in my opinion, the best book on the subject, period.

KEVIN KELLY: I started a successful (still-growing) mail-order business using this book as my text. I've used the other mail-order business books, previously suggested by Whole Earth, but this one is heads above all in usefulness. It's the wisest investment of $30 a mail-order hopeful could make.

•

One of the great virtues of mail order is that you *can* put your toe into the business and test it fully without getting in up to your neck. This is not the case with any other kind of business I know of.

Mediocrity of results is the most likely test outcome. Chances are you'll get neither a runaway winner nor a dud. The professional is the fellow who can tinker with a so-so proposition and make a winner of it.

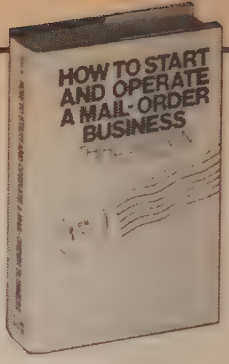
•

The key point is that mail-order businesses must usually sell *an entire line* of goods, rather than just a single item. It is the *repeat business* that enables a mail-order business to make money even if it cannot make money (or even "loses money") on the initial sale.

Examples of successful repeat-order businesses.

•

Mail-order selling is the *most* scientific business in the world. By that I mean that *figuring* and *calculating* can control a firm's decisions more than in any other line of trade. Aside from the selection of the offer and the creation of copy, the "human factor" and other imponderables have a smaller effect in mail order than in any other business, no matter how large the business is.



How to Start and Operate a Mail-Order Business
Julian L. Simon
1981; 553 pp.
$31.15
postpaid from:
McGraw-Hill Book Co.
Attn: Order Dept.
Princeton Road
Hightstown, NJ 08520
or Whole Earth Access

■

A true split run is a perfect test for two pieces of copy. In a split run, two different ads are set up for a single issue of a publication. The test is arranged so that each ad is in exactly half the copies, appearing in every other copy in each pile of magazines or newspapers that leaves the printing plant.

The split-run ads are keyed differently, and the number of returns is a perfect test of whichever copy or price is better.

Code No.	Quantity	Description	Dollars Per Thousand
HORTICULTURE, cont.			
Ht 14	17,000	rose bush buyers	15.
Ht 15	95,228	garden supplies, seed and nursery item buyers	15.
Ht 16	40,000	plant food, planters & garden supply buyers	15.
Ht 17	82,000	seed, ornamental shrubs, and fruit plant buyers	15.
Ht 18	2,067,100	buyers of lawn care magazine, supplies	15.
Ht 19	209,000	women buyers of dutch bulbs (home owners)	15.
Ht 20	10,000	buyers of water plants, lily pool supplies	19.
Ht 21	17,000	former subscribers to famous horticulture magazine	17.
Ht 22	150,000	members of horticulture groups and societies	17.
Ht 23	30,000	persons interested in raising orchids	15.
Ht 24	7,725	subscribers to Tropical Homes & Gardens (Florida)	15.
Ht 25	40,000	90% women who sent money for iris bulbs	15.
Ht 26	1,689,290	bought products for lawn care (in central states)	14.
Ht 27	22,500	retail florists	20

Partial listing of names, available for renting.

Straight Talk About Small Business

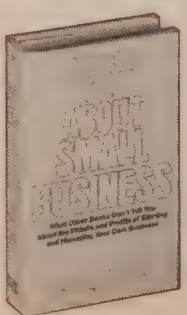
BERNARD KAMAROFF: This book discusses different ways to get a business off the ground, the different skills you will need, and the problems you are likely to encounter. Its emphasis is on the individual, the market, your ability to sell, and other non-technical subjects. It is down-to-earth, and has a personal, easy way with numbers and figures.

•

All evidence clearly shows that the surest way to succeed in a small business is to purchase a franchise from an established company. Some of these companies have failure rates for new franchises of less than 10 percent.

•

Most retailing business types have numerical "rules of thumb" which are used to determine a store's productivity. The most common of these ratios is sales per customer. It is easily obtained from daily records by dividing total sales for a day or week by the number of cash register totals for the same period. Knowing this value for your operation and for other similar stores can be very helpful. It can suggest that changes in store layout or merchandise mix (or some other variable that will encourage additional sales) are in order.



Straight Talk About Small Business
Kenneth J. Albert
1981; 255 pp.
$20.95
postpaid from:
McGraw-Hill
Book Company
Attn.: Order Department
Princeton Road
Hightstown, NJ 08520
or Whole Earth Access

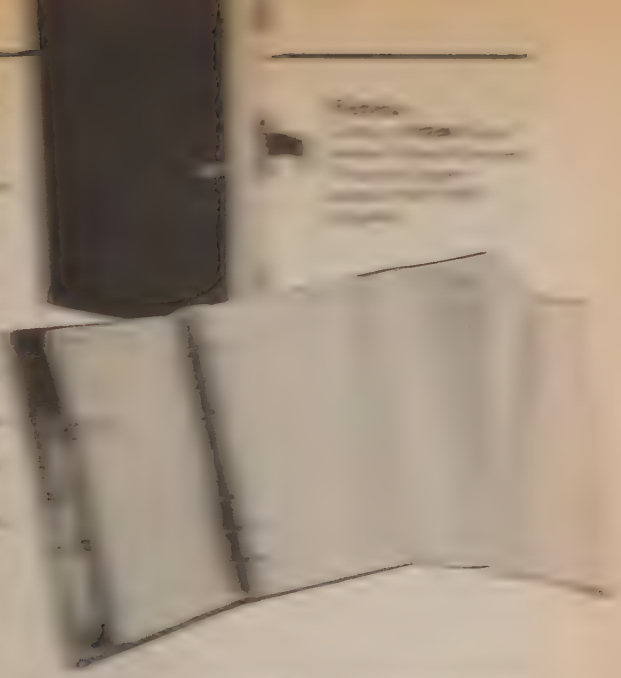
Sales-per-customer figures vary widely depending on the type of store. It is extremely low (about $1.50) for convenience stores, for example. A camera shop, furniture store, or clothing store would have a much higher ratio, of course.

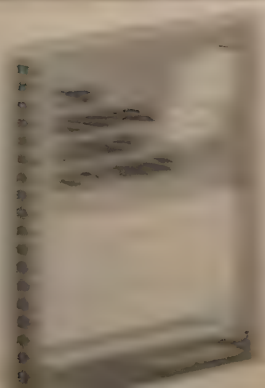
A second, specialized operating ratio in common use by retailers is sales per square foot of selling space. Again this value varies greatly, but to know it for your store and for similar stores can tell you a great deal. You can determine your store's value by dividing weekly sales by selling square footage. Noncompeting retailers will happily swap ratios with you.

■

Personally, I would never start a new business that is similar to other existing businesses unless I were sure the other businesses have been consistently successful. Just because a group of businesses exist, it doesn't necessarily follow that they are successful, will be successful, or will even continue to exist.

The existing businesses may be just eking out a subsistence wage for the owners. Or, a change in the competitive environment may be taking place that will severely dampen profitability in the near future.





"LET US NOW PRAISE FAMOUS HACKERS" was the headline in the Time *magazine story of the Hackers' Conference. Famous, infamous, and unknown, they praised each other with nightlong attention and exuberance. Left to right here: Mike Coffey, Steve Capps, John Draper, Andy Hertzfeld, and Dick Heiser, who had the final word: "Keep designing."*

HACKERS'
CONFERENCE • 1984

"KEEP DESIGNING"

HOW THE INFORMATION ECONOMY IS BEING CREATED AND SHAPED BY THE HACKER ETHIC

Edited by Stewart Brand Photographs by Matt Herron

I think hackers — dedicated, innovative, irreverent computer programmers — are the most interesting and effective body of intellectuals since the framers of the U.S. Constitution.

No other group that I know of has set out to liberate a technology and succeeded. They not only did so against the active disinterest of corporate America, their success forced corporate America to adopt their style in the end. In reorganizing the Information Age around the individual, via personal computers, the hackers may well have saved the American economy. High tech is now something that mass consumers do, rather than just have done to them, and that's a hot item in the world. In 1983 America had 70 percent of the $18 billion world software market, and growing.

The quietest of all the '60s subsubcultures has emerged as the most innovative and most powerful — and most suspicious of power.

Some of the shyer people you'll ever meet, hackers are also some of the funniest. The standard memory of the Hackers' Conference is of three days and two long nights of nonstop hilarity.

These supposed lone wolves, proud artistes, in fact collaborate with glee. Though famous as an all-male tribe, they have zero separatist jokes in their style; they comfortably welcomed the four female hackers (of 125 total) at the conference, and a couple of romances blossomed.

Like the prose of poets, there is impressive economy in the conversation of hackers, whose lifework is compressing code, after all. What follows is an only-mildly-edited transcript of one morning discussion on The Future of the Hacker Ethic, moderated by Steven Levy. Thirty-six voices are heard. Some are millionaires, some are quite poor. In how they treat each other, you cannot tell the difference. —SB

Some of the most high-powered pioneers in the computer business were gathered to reassess their origins. In a now intensely commercial business, they found they still were wanting to keep the faith in what they variously called the hacker drive, the hacker instinct, the Hacker Ethic.

In a new book called **Hackers: Heroes of the Computer Revolution,** *which was the inspiration for the conference, tenets of the Hacker Ethic are stated as: 1) Access to computers — and anything which might teach you something about the way the world works — should be unlimited and total. Always yield to the Hands-On Imperative! 2) All information should be free. 3) Mistrust Authority — Promote Decentralization. 4) Hackers should be judged by their hacking, not bogus criteria such as degrees, age, race, or position. 5) You can create art and beauty on a computer. 6) Computers can change your life for the better.* —*SB*

DISCUSSIONS FROM THE HACKERS' CONFERENCE, NOVEMBER 1984

STEVEN LEVY *(author of* **Hackers***)*: The Hacker Ethic, as I think all of you know, isn't something which back at MIT in the early '60s people would raise their hand and say, "I vow to follow the hacker ethic." It's a term I used to describe what I felt was a shared philosophy, not only of the hackers at MIT, but the people in the Homebrew Club who designed the first small computers in the mid-'70s, and some of the younger people who started hacking with those small computers later on.

BILL BURNS *(Homebrew-era hobbyist)*: Steve, can a person be a hacker without being the kind of superstar or wizard that you're talking about in the book? Can somebody be a low-level hacker just because he wants to have fun and an intellectual curiosity about the computer? Even though maybe he's not very good as a coder?

LEVY: One issue that I found at MIT was that some people were complaining for that very reason — that you had to be a "winner," you had to be really good to be considered a hacker.

BRUCE WEBSTER *(co-author of SUNDOG, a great capitalists-in-space game)*: One of the ironies in that is that "hacker" originally denoted someone who wasn't very good. It was someone who was not skilled professionally but tried to make up in volume what they couldn't produce in quality. *(laughter)* Or at least he was using a shotgun rather than a high-powered rifle.

RICHARD STALLMAN *(MIT system hacker, author of EMACS)*: You're always gonna find that if there's a community of real wizards they're gonna lose patience with the people who aren't. That doesn't mean that they can't be real hackers.

VOICE: The question is, "Can you hack in BASIC?"

CHORUS: Nooooo!

ROBERT WOODHEAD *(co-author of WIZARDRY, the classic role-playing adventure game)*: Only if you're very very good can you hack in BASIC. *(laughter, applause)*

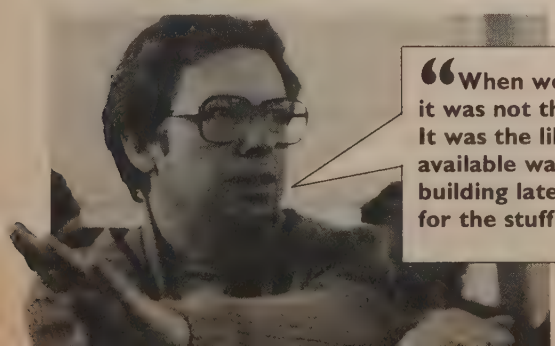
BRIAN HARVEY *(former MIT and Atari hacker, now working with kids)*: The term "hack" at MIT predates computer hacking. The way it started out, there were two kinds of people. There were "tools," who were the ones who went to all their classes and when they weren't in class they were in the library. And then there were "hackers," who never went to class and slept all day and did something or other all night. Before it was computers it was model railroads, or telephones, or movies, or Chinese food, or anything. Hacking started out as not something technical (although it tended to be technical, because this is MIT we're talking about), but a sort of approach to what's important in life. It really means being a hobbyist and taking your hobby seriously. If programming, for example, is something that you do on Sunday afternoons and the rest of the time you don't think about it, then you're not a hacker. But you don't necessarily have to be a star to be a hacker.

Now, if you're at the MIT A.I. (Artificial Intelligence) Lab, at least if you were there when I was there, you *did* have to be a star in order not to get dumped on a lot. And that was the problem. It was something that I hated very much.

DENNIS BROTHERS *(author of MACTEP, the first telecommunications program for the Macintosh)*: It should be pointed out that, at least by the time I got there, '64 or so, "hack" meant "a prank," plain and simple, and the better the prank the better the hack. Things like the big black moon at the Harvard-Yale game was the ultimate hack.

PHIL AGRE *(MIT A.I. Lab)*: These days at the A.I. Lab, the word "hack" is very, very diffuse. It is one of the very large number of content-free generic words, like "frob" and "the right thing," that fill the hacker's dictionary. I get the impression from the olden days that it once meant something more focused, but I'll be damned if I can figure out what it was.

STEVEN LEVY: Well, without focusing a whole lot on the word, I think there's pretty much an agreement here that there's a resentment of using the word totally to mean breaking into computer systems, and we are talking about it in a broader sense. How much of what we see now in programming has that same kind of



"When we were hacking around in the mid-'60s at Harvard, it was not the engineering students who were the hackers. It was the liberal arts majors whose only computer time available was if they gummed up the locks and snuck into the building late at night because they weren't allowed to sign up for the stuff." —*DOUG CARLSTON, founder and president of Broderbund, publisher of computer games*

*Left, in winged cap, Ted Nelson (*Computer Lib*) moderates a session on "Tools for Hackers." Above, Howard Pearlmutter "flaming" (expressing strong and extended opinion).*

devotion, non-dilettantism, that we saw in the days when people had to stay up all night just to get computer time?

DOUG CARLSTON *(founder and president of Broderbund, publisher of computer games):* May I protest just a little bit? When we were hacking around in the mid-'60s at Harvard, it was not the engineering students who were the hackers. It was the liberal arts majors whose only computer time available was if they gummed up the locks and snuck into the building late at night because they weren't allowed to sign up for the stuff. You did everything by trial and error, because we didn't have any courses, we didn't have access to anything other than manuals, and as far as I'm aware the whole group of midnight programmers there were people who didn't have any real functional use for what they were doing at all. So we called ourselves "hackers."

BRUCE BAUMGART *(early Stanford A.I. hacker):* I was at Harvard in the same years when I found the PDP-1 at the Cambridge electron accelerator and to stay up all night with it was just incredible. You could roll in at 9 P.M. when the physicists had left and you could stay there till 9 A.M. when they rolled back in. Do it night after night. I made it to classes but I slept through them.

STEVE WITHAM *(Xanadu, which is a scheme for a worldwide database and writing system founded by Ted Nelson):* It's not so much a hacker ethic as a hacker instinct. It's sort of like the baby ducks when they see their first moving object. *(laughter)*

RICHARD STALLMAN: You see your first computer language and you think, "This language is perfect." *(laughter)*

MARK MILLER *(Xanadu):* The computer itself is really the first moving object in some sense that any of us have seen. I think that what creates the hacker drive (I won't call it a hacker ethic, and I want to argue about that) is that there's a sense, "There's something terribly important here." It goes beyond the effect that this thing can have on the world and what I can do with it and all that. "There's something essential here to understand and I don't know what it is yet." I still don't know what it is.

STEVE WOZNIAK *(designer of the Apple computer, co-founder of Apple Computer, Inc.):* I think the hacker drive represents the children in us. Children love to discover, explore, create something a little beyond what they could before. In school you have the courses that teach you the problem and the solution, whereas the hackers tended to be just bright enough to take the little starting points, the mathematical tools, and build up a solution of their own, and they could discover the optimum solution of the day. The hacker motivation is what's different. They were intrinsically motivated; the challenge of solving the puzzle was the only reward. The rewards were in their head. It was like a hobby, whereas in the outside world they would have a job, careers, advancements, salaries — extrinsic rewards.

MARK MILLER: The reason I argue against the "hacker ethic": I think that Steve Levy's book was wonderful and I enjoyed it a lot, but I very much resented the way it, I think, tried to shoehorn in this idea that hackers as a group were necessarily against the idea of intellectual property. I considered myself a hacker in school, I consider myself a hacker now, and I've always thought that the idea of intellectual property was a good one.

RICHARD STALLMAN: There is definitely a tendency for hackers to not put up with someone who wants to deliberately obstruct them from doing something that's a fun hack. If somebody says, "It's useful for my purposes to prevent people from doing this in-itself-innocent activity, such as prevent people from logging in if I haven't given them accounts, or prevent people from running this program just because I'll get less money if they can run this program," . . .

VOICE: And use lots of undocumented entry points.

STALLMAN: If the person doesn't see a good reason why he shouldn't run that program or why he shouldn't use that computer, if he's a hacker, he'll tend to view the bureaucracy that stops him as a challenge rather than as an authority that he must respect.

BILL BURNS: The drive to do it is so strong that it sweeps other things aside. I think this is one of the big differences between the people that do their hacking on computers that cost a lot and are owned by other people, and the people that do their hacking on micros where they own it. If you own the micro there's no us and them, nobody's preventing you from doing anything but yourself.

STALLMAN: There's still copy-protection, and the fact that you don't get the source [codes]; you can't change the program around and learn something.

STEVEN LEVY: I want to answer Mark's point about intellectual property. I never meant to say that the MIT people were these fantastic people who didn't want to make any money ever. The fact was, for example, in

Above, Richard Stallman (MIT): "You see your first computer language, and you think, 'This language is perfect!'" Far right, Les Earnest (Imagen): "There are very few team hacks that one can think of that went anywhere."

'61, when Steve Russell wrote SPACEWAR *[the earliest and greatest computer game for 12 years]* as a hack and some people in the room helped improve it, the improvements came because it was an open program. Of course, Steve couldn't possibly have made any money by releasing SPACEWAR as a product, since I think there were only fifty PDP-1s in total made. Because he had that advantage that no one was tempting him, it was very natural to just leave the program in the drawer, let anyone look at the code, improve it, and what happened was you got a much better product from it being a universal property. In some more "serious" things like assemblers and compilers and all sorts of utility programs, the same system benefited everyone there. I think things happened that wouldn't have happened if programs were sequestered away and kept proprietary.

UNIDENTIFIED HACKER: There's one community in which this system does work, and that's academe, in particular the community that MIT is. In academia you're valued by how much you publish. The whole point is to discover something and at the end give it away. And if I could get a reasonable full professorship writing software and giving it away, I'd be very happy to do that.

What I'm doing is something like science but different from science, because in science I'm pushing the boundaries discovering new things. But only in computers do those things that I discover wrap around and increase my ability to discover the next thing. Computers have this nice feedback, positive feedback, that everything I do on my computer makes it better for me doing more things on my computer. No other field works that way.

VOICE: Organic chemistry works that way. All fields work that way.

BRUCE BAUMGART: I think we've forgotten something there, which is the bad nights at the lab, when the hackers stepped on each other's toes, when you were trying to get a paper done and somebody was hacking the text editor. You were trying to take a television picture, and somebody was running music using up all the disk space. There was anarchy. The big dogs would survive. You would go home, your stuff undone, because somebody bigger than you and more powerful than you and knew more codes, whatever, had stepped on you, or your disks or your pictures or something. Didn't you have bad times? Or were you always the biggest dog on the machine?

RICHARD STALLMAN: I always tried to oppose having it be a society of dog eat dog. I never tried to eat the dogs that were smaller than me. Whenever a person tried to act toward me as if I were above him, I'd always say, "I'm not above you; do what you think you should do; you shouldn't get orders from me." And if somebody thought he was above me, I would say, "You can't give me orders. See if you can get me fired; I want to do what I want."

BRIAN HARVEY: I think we're trying much too hard for a sort of unanimity here that doesn't exist about what all of us hackers are like. For example, if you want to bring up the word "ethics" — I felt very uncomfortable last night with a couple of people who got up and talked about how they made their living by stealing from the telephone company. I think it's one thing to be a high school kid wanting to show off that you're capable of making a phone call without paying for it, and it's something else to be an adult being in the career of encouraging people to be thieves.

STEVE WOZNIAK: I'd like to discuss the telephone topic from a hacker perspective, and it applies to software piracy. There are some people that actually have money and are ethical. Back then we went out and treated telephone blue boxing and the like as a fun exploration of the phone system. How could we make every call in the world, in every nook and cranny and all that, but I'll tell you, my phone bill as a college student at Berkeley was very high because I paid for all the calls I would have paid for anyway. I only used the phone system to explore the network. Some pirates copy software and they'll copy everything and put it in their collection, but if they find something that they do like and decide it's a good one, they'll go out and buy it because the producer deserves the money.

BURRELL SMITH *(designer of the Macintosh)*: I think one of the common threads of hacking is that all of us want a very pure model of what we're working on. Nowadays we're all very complex, we have stock options, salaries, and careers and stuff. Back then it was the joy of being absorbed, being intoxicated by being able to solve this problem. You would be able to take the entire world with its horrible problems and boil it down to a bunch of microchips or whatever we were hacking.

I think another aspect of that is that hackers can do almost anything and be a hacker. You can be a hacker carpenter. It's not necessarily high tech. I think it has to do with craftsmanship and caring about what you're

doing. The joy of seeing your stuff work is the excitement.

STEVEN LEVY: Yeah, but aren't there contradictions you have to deal with when those stock options and things like that get in the way? Homebrew had a period before there was a whole lot of money, when people would come in and say, "Here's the plans to this computer we're coming out with." Then there started to be secrets kept. How do you keep things going forward as much as possible when you have to keep those secrets, when you have allegiance to your company and its proprietary stuff?

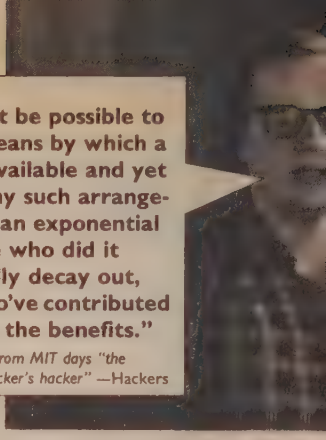
BRUCE BAUMGART: You just graduated from the academic to the commercial. There's many worlds, and I think the worlds overlap.

RICHARD STALLMAN: The question is, does one of them eat up the other so that it goes away? That's what seems to happen.

TED NELSON *(author of* Computer Lib/Dream Machines, *founder of Xanadu):* A perspective that hasn't been mentioned is that in times like the Homebrew Club, people had jobs. As Thomas Jefferson said, "I make war so that my grandchildren can study philosophy." The person who is studying philosophy is at the top of a food chain. *(laughter, applause)* The problem when the philosophers find they can sell philosophy is that suddenly it's the bottom of a food chain again. Only as long as it wasn't something that was commercially available could it have this pure aspect.

JOHN JAMES *(FORTH hacker):* There's a certain kind of contradiction that we're still dealing with in the world of FORTH, where the public domain is the soul of it and it's also the curse. The advantage of a programming language is that you can do anything you want to do, so you need complete access to the source code, of course, and then you need to be able to use the products in any way you want without having to let somebody look at your books in all future time. If that's not available, then the advantages of FORTH really aren't there. But the problem is that if everything is public domain, then how do you support elaborate systems development and so on? That's what we really haven't dealt with.

RICHARD GREENBLATT *(from MIT days "the archetypal hacker. . . the hacker's hacker"* **—Hackers**): I think it's very fundamental that source codes be made available. I don't equate that with giving them away necessarily. I think it might be possible to work out some means by which a source code was available and yet it was licensed, on a basis that didn't involve a great deal of bureaucrat overhead to the proceedings. If that could be done then you would get the best of both worlds. The people who had written something originally would have the benefit of some royalties; they would also have somewhere in there "copyright so-and-so," and it would be recorded that they were responsible for a particular piece of code.



"I think it might be possible to work out some means by which a source code was available and yet it was licensed. Any such arrangement should have an exponential tailoff. The people who did it originally eventually decay out, and the people who've contributed more recently get the benefits."

—RICHARD GREENBLATT, from MIT days "the archetypal hacker . . . the hacker's hacker" —Hackers

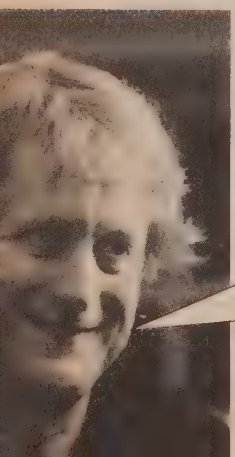
Having thought about this a lot, I've come up with only a few ideas to try to make it practical. One of them I think is that any such arrangement should have an exponential tailoff. In the first year the royalties should be such and such percent; after another year the royalty goes down one-half of what it was previous, or something like that — so that the royalty pie doesn't just get bigger and bigger, but the people who did it originally eventually decay out, and the people who've contributed more recently get the benefits.

STEVE WOZNIAK: Hackers frequently want to look at code, like operating systems, listings, and the like, to learn how it was done before them. Source should be made available reasonably to those sort of people. Not to copy, not to sell, but to explore and learn from and extend.

ROBERT WOODHEAD: Well, as a dedicated capitalist exploiter of the masses and running dog lackey of the bourgeois, I find that the software that I write usually falls into two different categories. There are finished products like WIZARDRY that I sell and make a living on, and then there are the tools that I wrote to build those products. The tools I will give away to anybody. But the product, that's my soul in that product. I don't want anyone fooling with that. I don't want anyone hacking into that product and changing it, because then it won't be mine. It's like somebody looking at a painting and saying, 'Well, I don't like that color over there, so I'll just take a can of paint and change it."

JERRY POURNELLE *(science fiction writer, columnist in* Byte *magazine):* You never had to deal with editors. *(laughter)*

WOODHEAD: Yes I do. I tell 'em to go to hell. On the other hand, if somebody sees something I did and says to me, "How did you do that?" I'll tell 'em in a minute. I'll give them all the information they need so that they can go out and do something better, because what I want to see is really great stuff. That's why all the tools I've developed when I've been working on the Lisa, I regularly send them off to Apple so that they



"The person who is studying philosophy is at the top of a food chain. The problem when the philosophers find they can sell philosophy is that suddenly it's the bottom of a food chain again. Only as long as it wasn't commercially available could it have this pure aspect."

—TED NELSON, author of Computer Lib/Dream Machines; *founder of Xanadu*

can get them out there, because I know they're gonna help somebody. Then something really great's gonna come out and take away all the market sales of my product. Then I'm gonna have to go out and write a better one.

BOB WALLACE *(author and distributor of PC-WRITE[1], an outstanding word processing program for IBM PCs and compatibles)*: We give away source with our product, and we haven't found it to be a problem. We do what we call 'Shareware." We give away PC-WRITE, and it seems to be supporting us, you know.

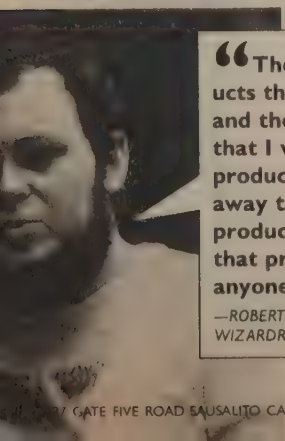
When I started, I wanted to do a product and I wanted it to be self-supporting. I didn't want to do it for another company and have somebody else have control over it. I wanted to have control over it *and* I wanted to make a living. Not having a lot of money for advertising, I figured the way to distribute it was, you know, word of disk. Diskettes are a new medium that I don't think people have realized how easy they are to copy and what that means, but it gives us a distribution channel.

It's very hard to get shelf space in stores. But most people choose their software based on recommendations by other people — 40 percent, I think. Next comes product reviews and next comes advertising. With PC-WRITE, people can not only recommend it but they can give it to somebody. People want to feel like they can use the software for a month or two and see, "Is this my software?" How many people here have bought a $500 package and discovered, "Well, it isn't quite what I need," and you're out $500?

STEVEN LEVY: You do get royalties?

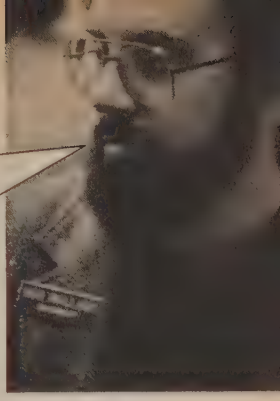
BOB WALLACE: Yeah, people do send me money. People after they're using it want to feel safe, they want to feel like there's support, they want to feel respectable and part of a larger process, and they want to support companies they like. So they send us money. Support includes a newsletter and updates and phone support and the source code. We've done fairly well. We've sold 6,400 $10 diskettes, and about 1,700 people then registered for $75. Then we also sold some

1. PC-WRITE is freely copyable and you are encouraged to give it to friends. You can get it by mail for $10 postpaid from Bob Wallace, Quicksoft, 219 First N. #224, Seattle, WA 98109. If after using it you decide to register your program, send Bob $75, and you'll get phone support, a bound manual, and the next version of the program. Also, if anybody to whom you give copies of your PC-WRITE decides to register, you are sent $25 of their $75.
A pyramid scheme without losers. —S.B.



"There are finished products that I make a living on, and then there are the tools that I wrote to build those products. The tools I will give away to anybody. But the product, that's my soul in that product. I don't want anyone fooling with that."

—ROBERT WOODHEAD, co-author of WIZARDRY, classic adventure game



"Giving software away is a lot of fun. You get great letters and great phone calls, people are very appreciative, and they give you some great ideas. At the same time we'll gross about $225,000 this year."

—BOB WALLACE, author and distributor of PC-WRITE

on an OEM basis *[Original Equipment Manufacturer, where a hardware maker or distributor includes software with the machine purchase]*, a couple thousand that way, because once you're out, and people have heard of you, then you can start working quantity deals where people'll buy your source and modify it and send you royalties.

LEVY: Was all that solely a marketing decision?

WALLACE: It was a way to do what I wanted to do without getting involved either in another company or with venture capital. And giving software away is a lot of fun. You get great letters and great phone calls, people are very appreciative, and they give you some great ideas. At the same time we'll gross about $225,000 this year. It's supporting two of us; we're adding a third person. So you can start a small company that way. I don't know how far we can get, I don't know how many people would send in voluntary registration money to Microsoft or something like that.

STEVE WOZNIAK: In a company sometimes a product gets developed and the company decides it doesn't fit a market, it won't sell. In a case like that the company should be very free to quickly give it to the engineer, legal release: "It's yours, take it out and start your own company." But sometimes the companies, because they own the product, will squash it and say, "You cannot have it, even though we're not gonna put it out, and nobody else in the world's gonna get it." That's a hiding of information, and that is wrong.

STEWART BRAND *(author of "Spacewar: Fanatic Life and Symbolic Death Among the Computer Bums," 1972)*: It seems like there's a couple of interesting paradoxes that we're working here. That's why I'm especially interested in what Bob Wallace has done with PC-WRITE and what Andrew Fluegelman did before that with PC-TALK. On the one hand information wants to be expensive, because it's so valuable. The right information in the right place just changes your life. On the other hand, information wants to be free, because the cost of getting it out is getting lower and lower all the time. So you have these two fighting against each other.

WOZNIAK: Information should be free but your time should not.

BRAND: But then, at what point of amplification is your time being so well rewarded that it's getting strange or so under-rewarded that it's strange? There's problems there with the market. ►

Left, Roger Gregory challenging disbelief in Xanadu, a database-to-be the size of the world.

Below, catered brunch outside the old Army chapel, a touch of style to end the bare-bones weekend in the barracks of Fort Cronkhite, now part of the National Park System near Sausalito, California.

Above, Jim Stockford setting up for "Graphics and Music Evening."

Right, Dave Caulkins (Packet Technologies) drawing a distinction about who influenced whom on the Hackers' Genealogy Chart.

Organizing the Hackers' Conference was like some of the early hacking at MIT, so collaborative and rapid you couldn't keep track of who did what. It practically fell together around the strength of character and curiosity of the participants.

Kevin Kelly imagined such a conference after reading Hackers, *I instigated the thing, and Patty Phelan was loaned half-time by John Brockman Associates to organize it in two months. Designing the conference itself were four hackers: Lee Felsenstein, famed as the master of ceremonies of the Homebrew Computer Club at its height, designer of the Osborne I and of Community Memory; Bill Budge, author of PINBALL CONSTRUCTION SET; Andy Hertzfeld, prominent on the Macintosh Development Team, co-designer of the Thunderscanner; and Doug Carlston, founder and president of Broderbund Software, Inc. Steven Levy, along with Whole Earth's Art Kleiner, Matthew McClure, and Kevin Kelly, played essential roles in continuity and follow-through. Office Manager Lyn Gray handled relations with the site, Yosemite Institute at Fort Cronkhite, where she used to work.*

It was set up as an invitational conference, no featured speakers, minimal budget; all participants paid the same $90 for food and lodging and conference no matter how much or little they used. With $5,000 donated by Doubleday (publishers of Hackers *and* The Whole Earth Software Catalog*) the event broke smoothly even at a modest total of $16,500.*

Knowing we had facilities for 150, over 400 hackers were invited in three waves. That became a saga of its own — identifying the right 400, getting current addresses and phones of a slippery crowd, getting them to respond (many are beleaguered; many ignore mail and phone). But once they were on the scene, they were the world's easiest group to work with. If anything went wrong, 1) they didn't care, 2) they could fix it. Staff, volunteers, participants, and press (20 knowledgeable computer reporters were invited) blended into one energetic population. As PC Week *headlined the following week, "HACKERS FIND WONDER, EACH OTHER AT CONFERENCE."*

Thanks to a $5,000 donation by Steve Wozniak, the entire amazing weekend was videotaped — making this article possible, as well as a segment on PBS's High Tech Times. *Videoist Fabrice Florin (624 Cabrillo, San Francisco, CA 94118; 415/751-8888) is seeking modest financial assistance to edit together a half-hour broadcast version of the historic occasion.* —SB

Then there's another paradox which is especially visible here. This conference is primarily programmers, almost no one who is primarily marketing. In the last year or so the marketing people drove the business, and they're having a tough year. *(laughter)* And nobody's really sorry about that. There's an opportunity now for the programmers, the creators, the fountainhead to reestablish where the initiation of this stuff comes from. Where it begins.

WOZNIAK: You get a lot of problems when you get engineers who are interested just in the technical solution, the right solution. It's got an incredible value to them because it was an incredible discovery, it took a lot of work to find it, and they pay no attention to marketing considerations. Somebody has to *use* this thing eventually. It has to make sense as a product. Sometimes engineers are in control and cause the most disastrous consequences for the companies in this business, because they did not act as one person with marketing.

BRAND: One of the problems with all that brilliant research at Xerox PARC — which was wasted at Xerox and later at Apple turned into the Macintosh — is that they never got to cycle their stuff through product. They never got to really deal with customers the way Wallace does or Fluegelman does, where they have a direct pipe between themselves and the people who are using their stuff. And since the Shareware guys are not fighting their own inventory (because they don't have to have any), they can respond with new improvements, new versions all the time. What they're doing strikes me as the best solution so far to these paradoxes. One of the things I'd like to see shared here is the economics of how to be in business for yourself or in cahoots with other designers, and have the marketing guys working for you.

WOZNIAK: Frequently you have the engineering here and marketing there, partitioned. It's much better when the engineers have a lot of marketing content and the marketing people have a lot of engineering content. It's much more motivating and more productive.

TERRY NIKSCH *(Homebrew hacker)*: Yeah, but I think you're almost getting into a definition there. I think a hacker works to please himself first and to impress his peers, but as soon as you go for institutional approval, which includes the institution of the marketplace, I don't think you're hacking anymore.

BOB WALLACE: No, no, no. Shareware is a marketing hack. *(laughter, applause)*

WOZNIAK: Somebody who's designing something for himself has at least got a market of one that he's very close to.

ANDREW FLUEGELMAN *(author and distributor of PC-TALK[2], an excellent telecommunications program for IBM PCs and compatibles; founding editor of* PC World *and* Macworld*)*: That's what got me started. I originally wrote PC-TALK as a pure hack. I won't confess what language I wrote it in, but the fact is that I had owned my computer for about a month and I was trying to send my files to someone using a completely different computer, and there was not one piece of software in the entire world that would let me do that. I stayed up for a lot of nights to figure out a way to do it, and I consider that to be very much within the hacker ethic or spirit.

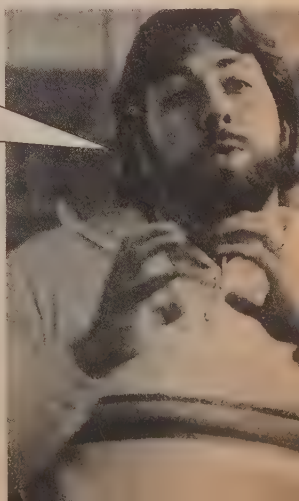
What got me away from being a hacker was when I figured out, "How can I get this out to people?" Although I'm known for giving away software for free, I did it purely to figure out how I could make some money with what I had done. The reason it's been successful is very strange. On the one hand, what people buy is not really access to the program, or the information. What they're mainly buying is the support, the stability, and the fact that it works reliably. And the reason for that is because I've had the opportunity to get a lot of feedback from a lot of people who were pissed off when they got Version 1.6 of the program, found that it didn't work with their modem, and they called me and said, "Hey, I've got this strange situation and here's what you can do to fix it."

I call that "freeback," and that's really what made the program successful. Right now my highest cost is user support. More than half of all the money I spend is to have people on the phone telling, not programmer types, but just regular people, how to use the program. In that respect my business looks similar to very commercial ventures. The difference is that it's been made accessible to people in a very unconditional way, and that's what people have responded to.

DAVID LUBAR *(game designer for Activision)*: You don't have to say that you *either* give it away or sell it. For example, a while back, just for the fun of it, I tried to see if I could compress Apple pictures and I came up with some code that required less disk space, so I published the listing in a magazine and as a result other people looked at it and said, "Hey, here's a better way," and it evolved through a whole bunch of people coming up with more and more compression. At the same time I gave the code itself to a publisher who put it out as part of a package and I get nice royalties from it. So it's not one world or the other.

DOUG CARLSTON: I think that there's a certain level of naivete here about the commercial world as a whole. All you have to do is take a look at the Japa-

"In a company, sometimes a product gets developed and the company decides it doesn't fit a market, it won't sell. But because they own the product, they will squash it and say, 'Even though we're not gonna put it out, nobody else in the world's gonna get it.' That's a hiding of information, and that is wrong. —*STEVE WOZNIAK, designer of Apple computer, co-founder of Apple Computer, Inc.*



2. PC-TALK.III, $35 suggested donation, from Freeware/ Headlands Press, Box 862, Tiburon, CA 94920. Available free through most users' groups.

nese Ministry of Industry and Trade, MITI. Japan certainly has gotta be one of the most commercial nations on Earth. With software they essentially wanted to require anybody who owned any proprietary product to license it to anybody who felt that they had a need for it, and if they refused such a license, it would then be stripped of its copyright protection. That's because Japan feels that it has a strong competitive advantage in the manufacture and sale of hardware, but they feel like they're years behind in the development of software, and frankly what they really wanted to do was strip the advantage that other nations had in the development of software from them so that they could take it if they wanted to use it.

The dissemination of information as a free object is a worthy goal, it's the way most of us learned in the first place. But the truth of the matter is, what people are doing has more and more commercial value and if there's any way for people to make money off of it, somebody's gonna try to get an angle on it. So I think that it ought to be up to the people who design the product whether or not they want to give it away or sell it. It's their product and it should be a personal decision.

BILL ATKINSON *(author of MACPAINT, the landmark graphics program on the Macintosh)*: Sometimes it's not even money. When I was working on QUICKDRAW I came across some improvements, real good algorithms, that I'd never seen before that I would love to tell lots of people about, because I think they're really neat hacks. And yet, I want to see Apple around in twenty years. It's not money for me; they're not paying me money to not talk about QUICKDRAW. I just know there's something there that gives Mac an advantage over an IBM PC and I don't really want to see IBM rip off QUICKDRAW. I don't. *(applause)*

ANDREW FLUEGELMAN: The problem is just distribution. There's been no thing on Earth so easy to distribute to people as software. The reason that we go out and pay five or ten or twenty thousand dollars for a car is because you need a key to drive it and it's usually sitting behind a fence at the dealer's showroom. The fact is that no matter how hard we work on something, how much inspiration or insight we put into it, once it's completed, in the medium in which we work, it's a trivial matter to make a perfect copy and give it to anybody in the world, instantly. That's what's been challenging us. It has nothing to do with whether it's easier or harder to make cars or write programs.

TED KAEHLER *(programmer at Xerox PARC — Palo Alto Research Center)*: Do you think it's reasonable, through the scheme you're using to support Freeware, that everyone in this room could be making a living that way?

FLUEGELMAN: I really don't know. I did it just as a giggle. The reason I started was because I'd finished this program, I was gonna send it out, and I knew that I didn't have a prayer of coming up with a copy-protection scheme that some kid in San Diego wasn't gonna break the first night, so I figured I've gotta work with the system somehow.

KAEHLER: You must know something about whether or not this many people could be doing that.

FLUEGELMAN: I think maybe, if a lot of people were willing to put out what I would call fully supported programs. That means not just something that gets the job done for you, which is what I did in the first round, but one that is error-trapped, that is documented, that is supported, that looks like it's been given all those trappings of value. Then maybe you can appeal to people's sense of value and they'll contribute for it. It's worked for me, I know it's worked for Bob and for a few others.

DOUG GARR *(journalist from* Omni*)*: Could you tell us how the economics of Freeware works?

FLUEGELMAN: I send out the program and I ask for a $35 contribution, which for a program of its type many people say is one-fifth the cost of what they'd expect to spend commercially. So it's a bargain to begin with. I encourage people to make copies. I try and discourage people from re-selling the program and large corporations from making thousands of copies. I tell people that whether they liked it or not, give it to a friend and if their friend likes it then maybe they'll send me some money. I would guess that about one-tenth of the people who are using the program now have paid for it, and there are a lot of commercial software companies that can't make that claim. *(laughter)*.

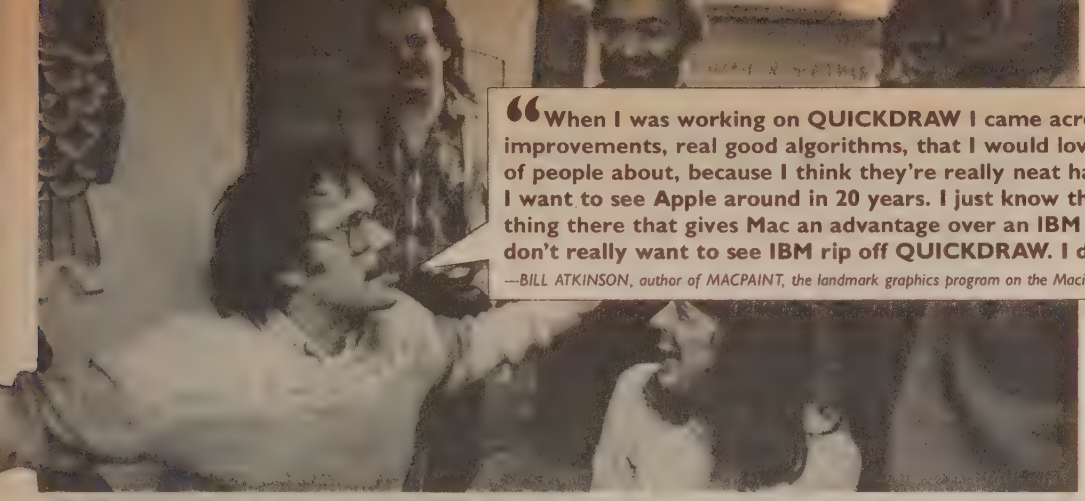
Hackers

The founding text for the Hackers' Conference was Steven Levy's **Hackers** *(1984; 458 pp.; $17.95 from Doubleday and Company, 501 Franklin Ave., Garden City, NY 11530, or Computer Literacy).*

Levy does for computers what Tom Wolfe did for space with The Right Stuff. *Both are behind-the-scenes tales of elite athletes pursuing potent new technologies; both are vividly written; both are inspiring.*

The very structure of the book was the occasion for the Conference. Levy chronicles three generations of hackers — the mini-computer all-night coders at MIT and Stanford in the '60s, the hardware hackers around the Homebrew Computer Club who made the first personal computers in the mid-'70s, and the myriad home-grown programmers on those computers as soon as they hit the market, who gave us the galaxy of consumer software from VISICALC to CHOPLIFTER. In the succession of generations Levy portrays a gradual degrading, commercializing of the Hacker Ethic.

The Hackers' Conference was called to join the three generations for the first time to see if they had anything to say to each other, and to see where the Hacker Ethic really was after years of stress in the boom-and-bust computer business. "Each generation," remarked conference co-designer Lee Felsenstein, "has suffered an infusion of Big Money. It may be interesting for them to compare how they've dealt with that." —SB



"When I was working on QUICKDRAW I came across some improvements, real good algorithms, that I would love to tell lots of people about, because I think they're really neat hacks. And yet, I want to see Apple around in 20 years. I just know there's something there that gives Mac an advantage over an IBM PC and I don't really want to see IBM rip off QUICKDRAW. I don't."

—BILL ATKINSON, author of MACPAINT, the landmark graphics program on the Macintosh

STEVEN LEVY: There's someone here who's supporting a program that doesn't ask for money. Dennis Brothers, do you want to tell us about MACTEP and what you've done there?

DENNIS BROTHERS: It's kind of a strange situation. I wrote it for my own use. I needed a communications program for the Macintosh, so I wrote it, and it turned out to be something that a lot of other people wanted as well. It's very primitive, very crude, compared to PC-TALK, but it was the right place and the right time, and there was tremendous response for it. I'm kicking myself a little now; maybe I should have put a little message in there: "Please send 35 bucks." *(laughter)*

FLUEGELMAN: I just want to know: How many people in this room are using Dennis's program and would send him some money for it? I would.

VOICE: Why don't you ask it as two questions? *(laughter)*

FLUEGELMAN: No, it's a compound question.

BROTHERS: It is not a high enough quality program, in my estimation, to warrant that. And I don't have the time to put into it to bring it up to the level of PC-TALK where I believe it would be worth that kind of contribution.

ART KLEINER *(telecommunications editor for* Whole Earth Software Catalog *and* Whole Earth Review*)*: You had time to hang out on Compuserve [network] and answer people's questions, though.

BROTHERS: Yeah, but that's more for the fun of it. I don't have any better luck explaining this to my wife than explaining it to you guys. *(laughter)* Someday I may make most of my income off that program and its derivatives and related things, but today my primary business is completely unrelated to that, and I just don't have the time. I give what support I can, for much the same reason that I'm at this conference, for the interaction with other hackers over a network. I don't know, I'm having a little trouble in my own mind figuring out just why I did it the way I did it.

RICHARD STALLMAN: What would you think if someone else wanted to work on improving it, say, and then distributed it as freeware and split the results with you?

BROTHERS: It has happened and they are not splitting *(laughter)* and I don't know how to handle that.

BRIAN HARVEY: I'd like to argue against the idea of intellectual property in software. And here's why. I have a version of LOGO for UNIX that I worked on, that I wrote. So it's my intellectual property, right? I started with something that somebody else did and improved it. I improved it a lot; it's about 90 percent me. But I started with somebody else's structure. Now, before that *he* started with some terrific intellectual work done by Seymour Papert and Wally Fertzog and the gang at BBN [Bolt, Beranek & Newman, a Cambridge research institute] and MIT. I also started from the work done by Ken Thompson and Dennis Ritchey and Brian Kernighan to give me the programming tools that I needed to write that thing. I also started with a whole basis of material support from the guys who built the hardware and designed the hardware. Okay? That's not to say that I didn't do anything.

VOICE: Don't forget your mother and father. *(laughter)*

HARVEY: Damn straight. And the people who were paying my salary while I was doing it — they weren't paying me exactly to do that *(laughter)*, but hang on, the truth is I was a teacher in a high school and I needed this program to teach my kids. They weren't paying me to be a programmer, but I did it because it was something I needed to support my work. The point is what I did was based on the work of a hell of a lot of other people, all right? I think that's true of anything that anybody does. If I say fuck the world this is my thing and I'm in it for what I can get, then I'm a son of a bitch.

STEVE WOZNIAK: Philosophically you go higher and higher and higher and the whole world is the best thing. If the world gains, that's better than if your little country gains, or your little company gains. But then we don't want the others to get it, because "If IBM gets it it's gonna be a bad outcome for The People." It turns out that that's either bullshit or something else, but it's bullshit. It turns out if IBM got it the rest of the world would really have more and do more. We really just want to make as much money as we can off of what we put our time in. Now you take that one level further and . . . I forget what I was gonna say. *(laughter, applause)*

JERRY JEWELL *(founder of Sirius Software, publisher of computer games)*: I think in most cases the programmers here who are wanting to make money at this are a lot like old witchdoctors. As long as they can keep a

secret how they do things, it appears to be magic to John Q. Public, and they're gonna make a living, but as soon as everybody has a computer and knows how to program and we have languages that don't require any special knowledge, your income's gonna go away.

DAVID LUBAR: But there are more people willing to buy games and play them than are willing to write them.

JEWELL: Right. Because they don't know how to write them.

WOZNIAK: I remember what I was gonna say. The company wants to keep it secret to make as much money as they can, but here's how we get beyond that level. We say that the whole world wins because other people are more inspired to go write their own programs and design their own hardware because they're gonna make money. They're gonna make so much product and do so well off it that they'll go out and do the most incredible things. They're inspired. That's the American way.

RICHARD GREENBLATT: There is a force in this world for standardization. If there's a knowledgeable marketplace people will say, "Gee, we want to do things a standard way." That's what IBM really did right. They said, "We're gonna have an open architecture on the PCs," and they advertised that and it was the one thing they did right, and look where it got 'em. In software that same thing can happen. If you have something done right and it's standardized and it's public, people will want that as opposed to the proprietary thing. And it's not necessarily because it's better today than the proprietary thing, but they realize that it is building a foundation and over the long term maybe it will get to be better than the proprietary thing.

WOZNIAK: Customers set the standards.

GREENBLATT: Customers inevitably will set the standards, no matter what.

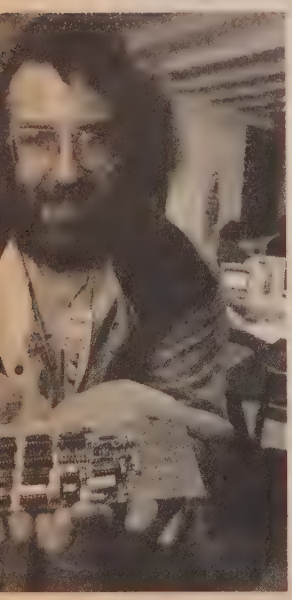
DAVE HUGHES *("Sourcevoid Dave," system operator of pace-setting bulletin board system — 303/632-3391)*: Hackers are doomed, and you just better accept that. *(Hssssss)* Not doomed to extinction, you're doomed to live a life in which you're on the frontier. Nobody pays for my WORD-DANCE, nobody paid for your early stuff, nobody paid for T. S. Eliot's first goddamn poems. When he got commercial, then the ethic meant when he made it he damn well better cycle back, and at least Apple and a few companies try to give it back, and the Shareware and Freeware is an attempt to try to reconcile that boundary toward an ethic and a commitment.

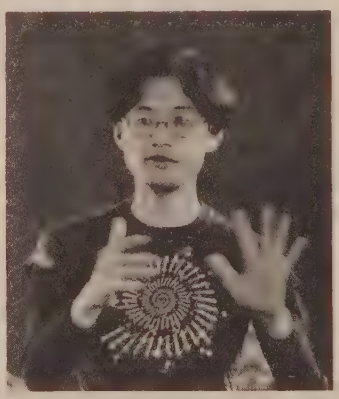
HENRY LIEBERMAN *(MIT A.I. Lab)*: How does the frontier get supported? How do the centers of research and the centers of education get supported? I think there is another kind of software piracy going on that's not discussed very much, and the villains are not high school kids who copy discs and break secret codes. They're executives in three-piece suits that work for large corporations and drive Mercedes. They make money off the results of research and education, and they don't kick very much back to support the next generation.

VOICE: They will argue that they paid the taxes that funded the MIT A.I. Lab.

LIEBERMAN: That's true, and that is the only reason that places like MIT and Stanford don't disappear entirely off the face of the Earth. We have this paradoxical situation where the computer industry is booming and yet places like MIT and Stanford don't have secure support. It's very likely that I will be out of a job in a year. Places like the MIT A.I. Lab get no direct benefit from places like IBM or Apple. Well, that's not true, that's not true. They give us discounts on their machines, and that's very helpful.

And they contribute some cash, but the amount they contribute is piddling in the sense that when it comes time to pay my salary, the people I work for have to go begging to people like ARPA and they have to promise to build bombs *(murmuring)* [ARPA is Advanced Research Projects Agency, part of the Defense Department] and that disturbs me deeply. I and my colleagues come up with important ideas which people acknowledge helps support the industry and makes money for people. I would like to be able to pursue my

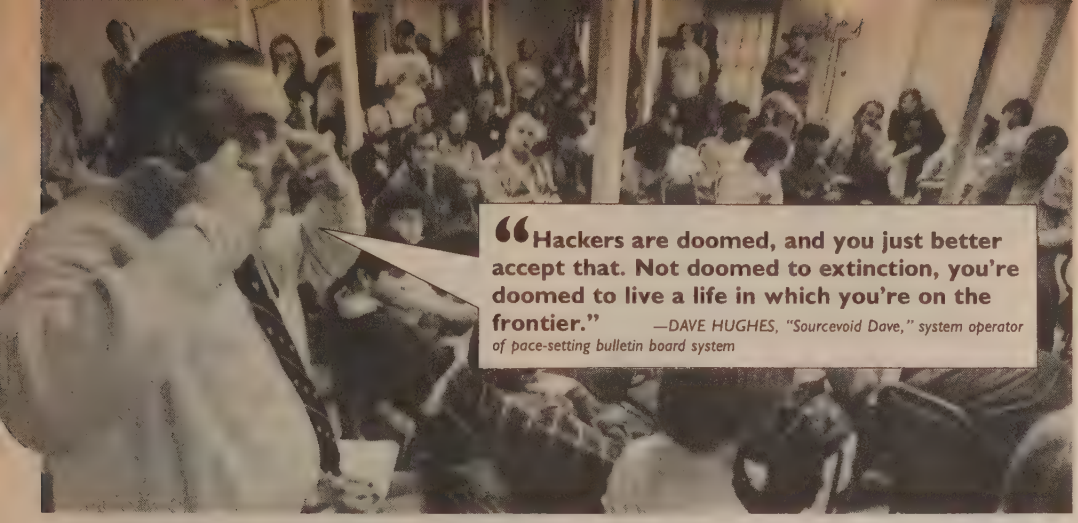




Left, John Draper (Cap'n Crunch) with one of the original "blue boxes" used for hacking up the planet's telephone system.

Above, Scott Kim, author of Inversions, *designer of the Hackers' Conference logo and T-shirt (p. 44).*

Right: Diana Merry, Xerox PARC.



"Hackers are doomed, and you just better accept that. Not doomed to extinction, you're doomed to live a life in which you're on the frontier." *—DAVE HUGHES, "Sourcevoid Dave," system operator of pace-setting bulletin board system*

work without having to go to the Defense Department.

RICHARD STALLMAN: It's worse than that even, because at a university paid for by everyone in the country an idea will be developed almost to the point where you can use it, but then the last bit of work will be done by some company and the company will get lots of money, and those of us who already paid for most of the work won't be able to use the results without paying again, and we won't be able to get the sources even though we paid for those sources to be written.

LES ERNEST *(founder of Imagen Systems, former head of Stanford A.I. Lab):* Various ideas have been given about what is the essence of hacking. Is it altruism or is it financial motive? My view is that it's primarily an ego trip, by most people. All good hacks are done by somebody who thinks he can do it a lot better than anybody else, and he goes off and does it. There are very few team hacks that one can think of that went anywhere. *(murmuring)* Of course commercial development is intrinsically a team effort, and therefore there is always some tugging going on when you change over from being a hacker to trying to do some commercial development. It was mentioned a little while ago that Japan, while they have good hardware, don't seem to have good software for the most part. My view is, that's a cultural problem; Japanese culture values team effort very much; it does not value ego trips.

BILL BURNS: I think Les is right, and I also agree with what Woz said, and I would like to propose that we separate two things. I think the "hacker drive" is individual, it's a drive within us. It's what happens when we're doing something absolutely useless; we just decided to tickle a line of code and see where it went at some weird 3 A.M. on a Saturday morning. But then what happens to the product of that is a whole 'nother set of questions. I think if we can separate the hacker drive from the products of hacking, which can either have no economic value or tremendous economic value but still have the same hacker value, then I think the discussion will get a little farther.

LEE FELSENSTEIN *(designer of Osborne I, co-founder of Community Memory):* If you're only dealing with one of those two things in your life, if you define yourself in only one area, you are crippled, I say. I've seen a lot of cripples on the other side, too. If you're only taking stuff that other people make, and playing games with it to somehow get money out of it — I believe that people like that (of course, I'm not one of them) *(laughter)* . . . people like that know that they're the ones that are playing the win/lose game. "If I give it to you I must take it from him." And that results in what I and other people call the "production of scarcity."

We have a responsibility to know about and live to a certain extent on the other side of the fence and find out what happens with these things once they're produced. And we should also expect the people who live most of their lives over there to come onto our side and learn to play a little bit, learn to express some of their own creativity. Concentrating on one thing alone makes you into a deformed person.

DICK HEISER *(owner and proprietor of the original Computer Store in 1975, now with Xanadu):* It seems like you can have a variable amount of your own content in something. As a computer retailer I found myself turning over other people's goods. I wanted to distinguish the quality of my service, but I found that hard. Don Lancaster, who wrote a book called *The Incredible Secret Money Machine (applause),* talked about the fact that if you are maximizing the added value, rather than trying to leverage other people's money or other people's work, then a miracle can go on.

You have to be committed, and you don't know how it's gonna work out, but the amount of power factor that's going on in this technology is so astounding that you ought to be encouraged to try. In this miraculous environment, we find people like Bob Wallace doing things that succeed very much beyond the expectations that he probably had. Similarly my store started out as kind of a hacker-type thing that became much too commercial. You keep deciding, "Is that what I want?"

You keep designing, you keep adding personal value, and the miracle keeps happening. It doesn't happen for everybody, unfortunately, and it doesn't happen automatically, but if you're willing to experiment, and if you beware of too much money and too many other people getting involved, so that you can make your own decisions, then you're free to try these wonderful things and see if they work. And sometimes they do. ■

Powers of the Press

RICHARD NILSEN: This history of a dozen international newspapers is about bias, power elites, perspective, and the dangers inherent in ever taking any media — print or electronic — at face value. The author is a reporter for the ***Manchester Guardian*** *(England), which he believes is a superior paper and therefore eliminates from this discussion because of his own bias. Newspapers emerge as contradictory beasts, both very powerful and very fragile. Crusading editors and reporters have changed public opinion and national policy, and they have also been sued, fined, boycotted, jailed, and assassinated.*

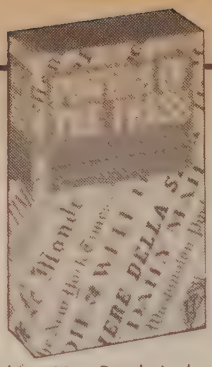
The final chapter considers each paper's coverage of Iran for the ten years preceding the fall of the Shah in early 1979. This is an amazing look at how cultural prejudice and seeing what you want to see can get in the way of understanding the facts. Considering that this was one of the major revolutions of the twentieth century, Walker thinks the coverage by almost all of the papers was very poor. Out of the dozen, he likes ***Le Monde*** *best.*

•

It takes about a minute to speak 100 words — the length of an average newspaper paragraph. An entire thirty-minute news programme on radio or TV will contain as many individual words — as much raw information — as the lead news story and one feature article in a serious newspaper. So newspapers can consider and report matters in considerably greater depth.

•

Comparisons of the quality of coverage offered by each newspaper are bound to be subjective. But the advantage of hindsight would suggest that *Le Monde* was distinguished for the depth, prescience and sensitivity of its reporting. The *New York Times* would be second, and *The Times* would would be dragged down by the bizarre lack of comprehension that Lord Chalfont showed for the



Powers of the Press
(Twelve of the World's Influential Newspapers)
Martin Walker
1983; 411 pp.
$14.25
postpaid from:
Adama Books
306 West 38 Street
New York, NY 10018
or Whole Earth Access

Shah's critics. But their sheer volume of coverage meant that, for all their failures of interpretation and almost total ignorance of the Muslim opposition, *The Times* and the *Washington Post* would come third and fourth in the quality stakes. *Asahi Shimbun*, *The Age* of Melbourne and *Corriere della Sera* make up the next grouping, of getting the story moderately right, noting that opposition did exist, although paying it very little attention. And finally, *Pravda*, the Toronto *Globe and Mail*, *Die Welt*, the *Rand Daily Mail* and *Al-Ahram* showed very little sign of caring whether they informed their readers accurately or not. The political constraints upon *Pravda* make it almost unfair to judge the paper by Western standards. But given that Iran was building up to one of the most sweeping and significant revolutions the world has seen since 1917, *Pravda's* determination *not* to see what was going on is quite breathtaking. . . . It must be stressed, these newspapers represent about the best information and analytical packages at the disposal of their various nations and cultures. Not only did the world's leading newspapers fail to do their job well, their failings meant that the majority of the world's literate and interested citizens were quite seriously misinformed. As a participant in the world's political process as it unfolds from day to day, from year to year, the press acted as a distorting mirror. With the exception of *Le Monde*, it failed in the job that it is designed to do.

AudioCraft

ROBERT HORVITZ: Last winter I began producing occasional news features for Radio Netherlands' ***Media Network*** *program. This book has been a tremendous help. Clearly written and presuming no technical expertise, it gives good basic advice on how to do broadcast-quality audio production on a limited budget, without putting a lot of you-can't-do-that cramps on your creativity. Covers situations relevant to newsgathering, concert "remotes," radio dramas, interviews, documentaries, recording sessions, promotional "spots," etc. Intended primarily for community radio stations and sound artists, it should also benefit film- and video-makers (author Thom won an Oscar last year for his sound work on* ***The Right Stuff****).*

FABRICE FLORIN: Audio is often the most neglected part of a film, TV, or video program, yet it accounts for over 50 percent of its real content. Whenever I produce a film or video I always start with the audio as the foundation and basic carpentry of the structure — the visual portion comes next to fill in the walls. Sure glad this book is covering this important subject.

AudioCraft
(An Introduction to the Tools and Techniques of Audio Production)
by Randy Thom
1982; 193 pp.
$15 postpaid from:
National Federation of Community Broadcasters
1314 14th St., NW
Washington, DC 20005
or Whole Earth Access

•

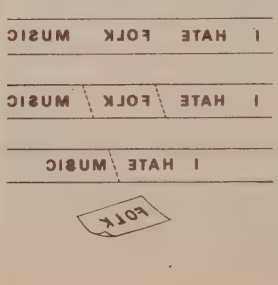
During recording, the technician should occasionally switch back and forth between the "INPUT" and "REPRODUCE" positions. If the "REPRODUCE" signal sounds significantly different from the "INPUT" signal, something is wrong.

•

Great audio programs of high technical quality *can* be produced using old and/or cheap equipment. The two prerequisites are good equipment maintenance and a knowledgeable operator. (The same prerequisites apply to snazzy equipment, too.)

•

A problem occurs when two microphones are positioned so that a single sound causes the element of one mike to vibrate out of phase with the element of the other. For this reason, it is a good idea to mix into one channel the outputs of all the mikes in a *multi-mike* setup (sum the mikes) one by one and listen for a drop in level or change in frequency response (tone quality) as each mike is added. If such a change occurs, you know that the last mike is significantly out of phase with at least one of the others.



Since most tape recorders transport the tape from left to right, this is actually the way the sounds get put on the tape itself. Think about it.

Most tape editing is simply a matter of physically cutting out unwanted words or phrases, and joining the remaining pieces with adhesive tape.

Rock & Roll Confidential

JOE KANE: Dave Marsh was a popular writer from the old ***Rolling Stone*** *magazine. He's always been a battler for blue collar values in rock and roll, with something of a political perspective. He was one of the first to regularly describe racism in rock and roll. His newsletter,* ***Rock and Roll Confidential****, has become an underground legend in its first year of publication.*

JAMES STOCKFORD: The June '84 copy of ***RRC*** *I saw is an eight-page diatribe on sexism, corporate manipulation, and wimpy airplay policies. Lotsa reviews, gripes, and news about recent releases, concerts, TV programs, and so on. Lotsa reader participation too, but the editor would like more. [Suggested by Jim Harb]*

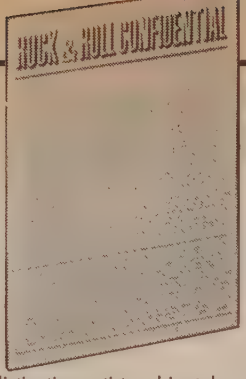
•

We applauded the tour of Asian military bases by an all-star rock band (members of Cheap Trick, Kansas, Pablo Cruise, and others) in March but cautioned that the U.S.O. junket might also lend credibility to the fascist countries where most of our troops in the Far East are stationed. We recently learned that our article sparked quite a debate in the band as it rehearsed in Hawaii. The conclusion some of the musicians came to was that while they didn't approve of the way that governments such as the Marcos regime in the Philippines conduct their business, they were going to Asia to give a shot of rock & roll to soldiers who desperately need it. This is just the distinction we were trying to make and which people like Bob Hope are always trying to gloss over.

■

Arzel "Z.Z." Hill wasn't an innovator or supremely distinctive artist — his style was highly derivative, his records frequently undistinguished. He spend most of his career working the dirt floor club circuit and playing to folk deemed so materially deficient that the mass media created new categories with which to overlook them. Z.Z. Hill was a plugger, a bluesy soul (or soulful blues) practitioner who lived his songs and steadfastly refused to modernize his act and update the repertoire.

After years of making decent-to-awful albums for everyone from Kent to Columbia, Hill ultimately triumphed when he came under the wing of Malaco Records and Dick Clark's promotional savvy. Hill's 1982 *Down Home* not only got played in New York, D.C., and other meccas of pseudo-sophistication, but it landed on the charts, rose, and hung on for nearly two years. Hill's followup albums didn't come close to matching this feat, but it didn't matter. An unabashedly rural Southern singer had proved that vibrant music from one of our most important traditions could sell if it got on the air.



Rock & Roll Confidential
Dave Marsh, Editor
$15/year
(12 issues) from:
Duke & Duchess Ventures
Dept. 13
Box 1073
Maywood, NJ 07607

Simplicity Cardboard Dulcimers

DAVID CROSS: Dulcimers are a folk instrument, easy to build and easy to play. They evolved in Appalachia before the Civil War. Because the full-length fretboard carries the string tension, there's a lot of room for improvisation in soundbox design. Early builders made dulcimers in a variety of shapes, using readily available materials. I've continued that tradition of using readily available materials by die-cutting soundboxes from 275-lb strength cardboard. Cardboard is amazingly expensive, but cheaper than wood and much cheaper to finish, bend, and glue. Its acoustical properties continued to surprise me until someone pointed out that expensive hi-fi speakers are made of a cone of cardboard around an electromagnet.

Cardboard holds up well, sounds almost as good as wood (better than most plywood), and doesn't cost much. If you end up with an unused dulcimer, you didn't spend much on it. If you fall in love with the instrument, you're a better-informed buyer when you later buy yourself a good wooden one. And you have a camping dulcimer to lend to friends, give to your children, take places you wouldn't dare take your new expensive instrument. Once painted, the cardboard soundboxes are remarkably durable. Also easily replaced, should your canoe capsize.

These dulcimer kits have three strings. The one-piece cardboard soundbox is painted inside and out, then folded to shape and glued to the fretboard in one step.

Simplicity Dulcimers
$30
postpaid from:
Backyard Music
P. O. Box 9047
New Haven,
CT 06532

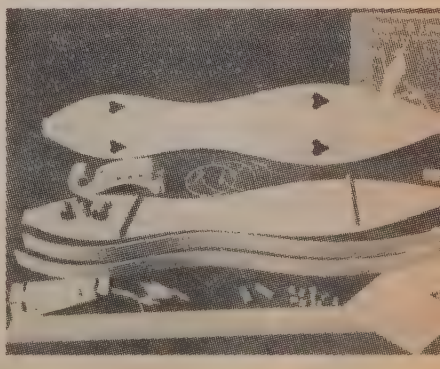
During Whole Earth Review production, James Donnelly on guitar, Kathleen O'Neill on fiddle, Jim Stockford on cardboard dulcimer.

McSpadden Mountain Dulcimers

DAVID CROSS: Excellent handmade wooden dulcimers are available for $135 to $200 at craft fairs. Above $200 you may be paying more for pearl inlay than for tone. If you're buying by mail I recommend McSpadden dulcimers ($130 to $175) for good tone, reasonable price, and dependable quality. Their kits, similar to their ready-mades, are a real bargain.

KEVIN KELLY: Last Christmas I put together one of McSpadden's wooden dulcimer kits. Authentic black walnut throughout (solid and veneer), four strings, everything pre-cut, all parts supplied (except you need lots of big C-clamps) including music book, total cost $50. It took about eight hours using their crude but workable directions. Looks classy and makes a sweet, lulling sound no matter who strums it.

McSpadden Mountain Dulcimer Kits
$50 postpaid
(catalog **$1.25**) from:
The Dulcimer Shoppe
P. O. Box E
Mountain View, AR
72560



Black walnut dulcimer kit

DOOMED

• Mike Stewart, 31, president of the Auto Convoy Company, Dallas, was filming a movie on the traffic dangers of low-level bridges when the truck he was standing on passed under a suburban bridge and killed him. *(Northwest Arkansas Times* 4/7/83.*)*

• Walter Hallas, 26, a market stall assistant in Leeds, was so afraid of dentists that he asked a workmate to cure his toothache with a punch on the jaw. He fell, hitting his head, and died later from a fractured skull. *(Manchester Guardian* 12/18/79.*)*

• George Schwartz, 54, was working late alone in the office of his factory in Providence, Rhode Island, when a huge explosion virtually flattened the building and sent flames racing through the wreckage. Only one wall was left standing. The blast swept him clear of falling masonry and flames, and dumped him on the front steps. After treatment for minor injuries and shock, he returned to the factory to try and salvage business files. The last remaining wall collapsed and killed him. *(London Sunday Express* 12/11/83.*)*

• Depressed because he couldn't find a job, Romolo Ribolla, 42, sat in his kitchen near Pisa, gun in hand, threatening to kill himself. For nearly an hour his wife Emilia pleaded with him not to. Finally he burst into tears and threw the gun to the floor. It went off and killed his wife. *(London Sunday Express* 4/5/81.*)*

• A farmer, aged 54, using the stairs because the lift was out of service, collapsed and died after climbing five flights for a heart checkup in Messina, Sicily. *(Manchester Guardian* 8/21/82.*)*

• A fierce gust of wind blew Vittoria Luise's bubble car into the river Sele near Naples. Vittoria, 45, managed to break a window, climb out, and swim to shore, where a tree blew down and killed him. *(London Sunday Express* 2/13/83.*)*

• Mrs. Carson of Lake Kushaugua, NY, was laid out in her coffin, presumed dead from heart disease. As mourners gathered round, she sat up and gazed wonderingly around. Her daughter dropped dead from fright. *(Niagara Falls Journal* 7/8/83.*)*

• A man was knocked down by a car in New York, got up uninjured, but lay down in front of a car again when a bystander told him to pretend he was hurt and collect insurance money. The car rolled forward and crushed him to death. *(New Sunday Times* 7/10/77.*)*

• A 35-year-old Johannesburg woman had been sitting in her car writing farewell letters while carbon monoxide poured into the vehicle through a hose attached to the exhaust, when a man dragged her out, threatened her with a knife, and stole about £20. She managed to drive away, but crashed into a fence and was being treated in hospital for minor injuries and depression. *(London Daily Telegraph* 1/22/80.*)*

• Abel Ruiz, 22, in despair after being jilted, hurled himself in front of the Gerona-Madrid express. He fell between the rails and sustained only minor injuries. After first aid at Gerona hospital he leapt in front of a lorry, but was again only slightly hurt. Back in hospital, he promised doctors he wouldn't try again. An hour later he was wheeled back on a stretcher. He had been trampled by a runaway horse — a complete accident. This time the injuries were serious, but he pulled through and said he was "glad to be alive." *(London Sunday Express* 6/18/78.*)*

• A Florida man was rushed to hospital after a snake bit him on the finger. Doctors removed the poison, saved the finger, and told him to stick it in an ice-pack. Two weeks later the finger had to be amputated because of frostbite. *(London Daily Telegraph* 4/24/81.*)*

• Consider Martha Matikia, a beautiful Bulgarian. A violent storm caused Martha to meet Randolph Eastman, an American touring near Sofia, in 1935, when he sought shelter in her house. They married within a week — two months later Eastman was struck dead by lightning, leaving Martha with £20,000. She bought her parents a new house and married Charles Martaux. While on holiday in Spain he was killed by lightning. In her sorrow she became ill and returned to Sofia where she was treated by a famous German doctor. On her recovery they went to Berlin, where they married. She left him when she found out he was a Nazi, but he pursued her. Near the French border his car was struck by lightning, killing him. *(Weekend* 3/31/76.*)*

• On Friday, May 13th 1983, a man excavating peat in Lindow Moss, a peat bog in Cheshire, found a skull with hairs adhering to it, and an eyeball still intact. Initial tests indicated that it belonged to a European woman aged between 30 and 50, who had been buried for between 5 and 50 years.

Three hundred yards away was a cottage where, 23 years earlier, former airline officer Peter Reyn-Bardt (now 57) had been living when his wife Malika disappeared. Reyn-Bardt, a homosexual, had married her in 1959 to gain respectability with the airline, but they separated before the end of that year. One day in June 1961 she turned up and demanded cash, threatening to expose his homosexuality to his employer.

When interviewed by police in January 1983 (why they had waited over 20 years is not revealed), he said he had given her £15 after which she had left. In June they confronted him with the skull. He confessed that he had strangled her, cut her up, and buried the pieces near his cottage.

The skull was then sent to the research laboratory for archaeology at Oxford, where tests were completed on 12th October. It was declared to be of a European woman who died in the year 410 A.D. (how can they be so accurate?), just as the Roman legions were leaving the area.

Reyn-Bardt pleaded innocent at his trial in Chester in December, but was found guilty and sentenced to life. No trace of his wife has been found. *(London Daily Telegraph* 12/13, 14, 15; *London Daily Mirror* 12/13; *New York Post* 12/14/83.*)*

These accounts from British and American newspapers were collected by Paul Sieveking and Robert J. M. Rickard in recent issues of Fortean Times *($12/year [4 issues] from Fortean Times, 96 Mansfield Road, London NW3 2HX, England). How many are journalism, how many are classic urban legends disguised as journalism? You can't tell from the details (names, ages, places); all urban legends have those. The surest test is when the identical story turns up elsewhere with different details. (I wonder how many of these will be picked up context-free by scanners of this page and retold later as truth — "I saw it in the* Whole Earth Review.*")* —S.B.

The Vanishing Hitchhiker • The Choking Doberman • Rumor!

STEWART BRAND: This lady came in from the rain, and her miniature poodle was wet and shivering. So she put him into the microwave oven to dry him off. He exploded. She was so horrified she had a heart attack and died.

I've told that one. I thought it was true. It is, but a different kind of true. It's a modern urban legend, a gripping, bizarre, often moralistic tale that goes the rounds as a factual account — "It happened to a friend of a friend of mine"; "I read it in the newspaper." Hundreds are in circulation at any time, and many do get picked up in newspapers. Vanishingly few have factual origins.

But they are wonderful stories, living for decades and often reappearing after centuries in new guises. A major collector of these modern folk tales is Jan Harold Brunvand in two riveting books, ***The Vanishing Hitchhiker*** *(1981) and* ***The Choking Doberman*** *(1984). He collects, tells, compares versions, tests factuality, and interprets. How many can you recognize just from his titles? . . . "The Death Car," "The Killer in the Back Seat," "The Kentucky Fried Rat," "Alligators in the Sewers," "The Solid Cement Cadillac," "The Economical Car," "Cruise Control," "The Bump in the Rug," "The Stuck Couple," "Superglue Revenge," "The Image on Glass," and scores more. Many have to do with new technologies, many have to do with racism (the doberman is choking on black fingers) and fear of foreigners.*

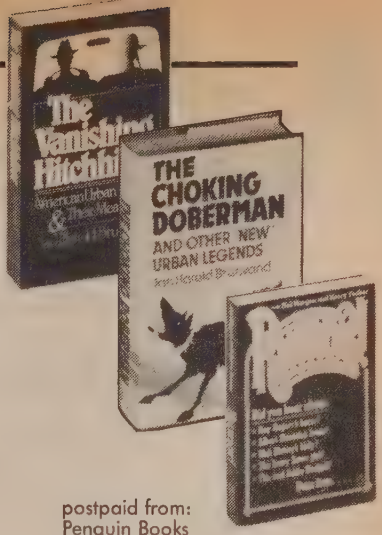
Either book will give you a new angle on your civilization, but I'd get both. The stories ring in your mind for years. That's what keeps them alive.

For a somewhat more trivial perspective — "here's a popular wild story; is it true or false?" — ***Rumor!*** *is an enjoyable exercise. Did Roy Rogers really stuff his horse, Trigger? (Yes.) Do green M & Ms really make you horny? (No.) Is the stuff in the middle of golf balls really explosive? (No.) Was President Cleveland's upper jaw secretly removed while he was in office? (Yes.) With details. Fun, brief.*

The Vanishing Hitchhiker
Jan Harold Brunvand
1981; 223 pp.
$6.95
postpaid

The Choking Doberman
Jan Harold Brunvand
1984; 254 pp.
$14.95
postpaid
both from:
W.W. Norton
500 Fifth Avenue
New York, NY 10110
or Whole Earth Access

Rumor!
Hal Morgan
and Kerry Tucker
1984; 160 pp.
$5.95
postpaid from:
Penguin Books
299 Murray Hill Parkway
East Rutherford, NJ
07073
or Whole Earth Access



•

A girl managed to wrap her hair into a perfect beehive. Proud of her accomplishment, she kept spraying it and spraying it, never bothering to wash it again. Bugs began to live in her hair. After about six months, they ate through to her brain and killed her.

•

[A cement-truck driver] was delivering a load of wet mix to an address near his own neighborhood when he decided to detour slightly and say hello to his wife (or perhaps it was to pick up something at home). When he came in sight of his home, he saw a shiny new Cadillac in the driveway, and he parked the ready-mix truck and walked around the house to investigate. He heard voices coming from the kitchen, and when he looked in through the window there was his wife talking to a strange, well-dressed man. Without checking any further, and certainly without alerting the couple inside, the truck driver lowered a window of the new Cadillac, and emptied the entire load of cement inside it, filling the car completely. But when he got off work that evening and returned home, his tearful wife informed him that the new (now solid-cement) car was for him — bought with her hard-earned savings — and that the stranger was the local Cadillac dealer who had just delivered the car and was arranging the papers on it with her.

Louie W. Attebery of the College of Idaho in Caldwell succeeded in tracing a documented "original" of this story. . . . Attebery's check in the morgue of the Denver *Post* produced three news stories of August 5, 6, and 7, 1960, concerning one Robert O. Porter, driver of a truck for the Centennial Concrete Co., Denver, "who dumped five tons of concrete mix into a pal's car," after he tried to deliver five tons of wet mix and was kept waiting for an hour. The car, owned by his "pal" Joseph Nelson was a 1946 DeSoto, and when the cement settled down in it, the *Post* reported, "its tires blew, its springs snapped and its frame bit the dust." Although some details of the case, such as the age and relatively low value of the car and the publicity gained by the company (which replaced both the car and the cement) strongly suggest that the incident was an advertising gimmick, the car itself, according to Attebery, "sits in a place easily seen from one of Denver's arterial streets and serves as a pop advertisement for the cement company." The final proof that this "Solid Cement" De Soto is not after all the original of the urban legend was the discovery of the existence of an *earlier* version dated April 16, 1960.

•

The important role of the press in circulating and varying legends has been nicely shown by Norwegian folklorist Reimund Kvideland, who made a study of European newspaper reports of the cement-filled car story which began to appear in Europe in the spring of 1973.

On the day after the [initial] article appeared, Kvideland reported, many Norwegian newspapers got the story from news bureau wire services or reporters and published variations on it. The national paper *Dagbladet*, for instance, ran a highly detailed story identifying the driver as a twenty-six-year-old man, pinpointing the car as a 1966 Volkswagen, and painting a lurid image of the lovers being spied "naked in a double bed." The solid cement Volkswagen weighed 2.6 tons and required a couple of tow trucks to move it away. The lover, *Dagbladet* concluded, after consulting with an insurance company, decided to ask the police to investigate the matter. —*The Vanishing Hitchhiker*

•

The most insidious urban drug legend, as well as the one with the greatest narrative development, describes how LSD dealers try to make addicts of our young children by polluting the image of Mickey Mouse himself. (Is nothing sacred?) Surely it is a dreadful thought, but just as surely it is a folk fantasy, for there would obviously be too little profit to be earned from selling drugs to small children to make the risk and the investment worthwhile.

The legend of "Mickey Mouse Acid" received wide circulation all across the United States in anonymous printed or typewritten one-page handouts bearing a rough sketch of Mickey garbed more or less as for his role as the sorcerer's apprentice in the film *Fantasia*. . . . —*The Choking Doberman*

Supposed acid-laced Mickey Mouse decals.

MoTzuing

Notes on Discussions Regarding Nuclear Winter and Space Bridges with Chinese and Soviet Scientists

by Robert Fuller

IT IS COMMON KNOWLEDGE that the two atomic bombs which ended World War II each killed about 100,000 people; and many know that the fire storm in Dresden, caused by "conventional" incendiary bombs, killed about three times as many people as each atomic bomb. But few outside China know that ten million people died as the result of a few strategically-placed sticks of dynamite. In 1938, in an attempt to hold back the invading Japanese, Chiang Kai Shek ordered that the Yellow River dikes be destroyed. The resulting flood drowned one million Chinese immediately and another nine or ten million starved to death in the aftermath because crops and croplands were destroyed for years. This single act of environmental warfare killed 100 times more people than the atomic bombs. Like nuclear winter — the ultimate form of environmental warfare — its long-term effects were far out of proportion to its immediate cause and to the short-term effects. And, like the nuclear war that precipitates a nuclear winter, it proved to be suicidal.

I have just returned from China — where I visited the site of this greatest of all human catastrophes — traveling overland by train through Mongolia and the Soviet Union, back to Europe. In China I spoke with many scientists and others about nuclear winter. Ever since last year's teleconference ("space bridge") on nuclear winter linking American and Soviet scientists, I have imagined including the Chinese in a three-way "Triborough Space Bridge." I've always felt that the triangular negotiating dynamic would be more fruitful than the two-way Soviet/American dynamic, characterized as it is by confrontation and polarization. Perhaps an aside on this assumption is appropriate because it underlies these discussions with the Chinese.

During the late 1960s I was working in a predominantly black Seattle high school. At one meeting of the Board of Education an angry group of white parents was demanding that a track system be established so the more gifted children would not be held back. At the time this was seen mainly as a device to reestablish segregated classes. The white parents cited scores on achievement tests which seemed to indicate that whites averaged better than blacks on these tests. Hence, their reasoning went, there should be a two-tiered educational system, one tier mostly white and one mostly black. The atmosphere was heating up very fast when an Asian-American got the floor. He didn't question the facts or the logic of the white group, but merely pointed out that the scores of the Asian-American students were significantly higher on average than those of the white students, and accordingly the logic of the argument dictated the creation of a *three*-track system. The effect on the audience was a kind of stunned buzzing. The incident has intrigued me ever since. The energy being channeled into a polar confrontation between blacks and whites was diffused. It wasn't that the problem was solved — it was not — but the room began to inch away from danger towards safety. Attention slowly turned from how to separate the children into groups to how best to educate them all.

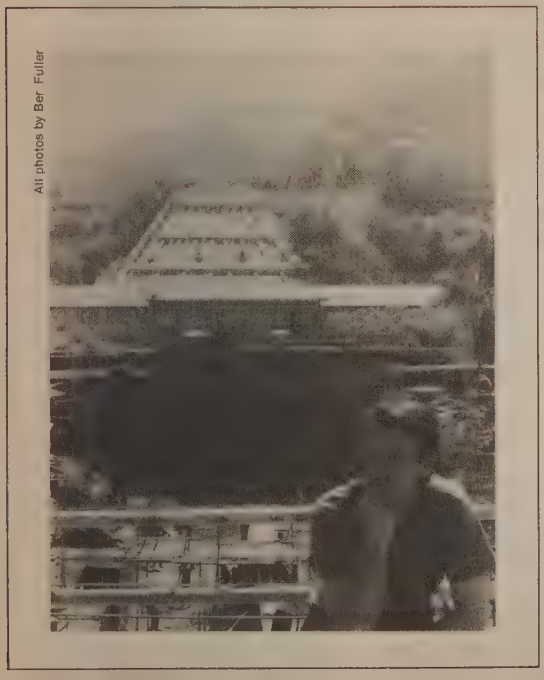
In my mind, that moment stands as the pivotal one in Seattle's race relations. I've always felt Seattle was fortunate to have a large Asian-American pop-

"Institutions can't talk freely, but individuals can," says Bob Fuller. Without the cumbersome baggage of representing a government he has nimbly blazed the way for peace in Poland, Kenya, Russia, and the Mideast. On his last missionary journey he applied the original Chinese MoTzuing technique to its homeland. MoTzuing works anywhere. Unlike war, you don't need an army to do it. —*Kevin Kelly*

A WAY for citizens working independently of their governments to make peace.

ulation so that the issue of race was in fact triangular, not bipolar. And ever since, I have wondered if there isn't some way, at least conceptually, to "triangulate" the deadly bipolar confrontations between the Soviets and the Americans, and between the Soviets and Chinese. (The third pairing, that between the Americans and the Chinese, is at present both a less tense and less deadly one than the other two.)

The phenomenon of nuclear winter, in addition to being of the greatest intrinsic importance, might provide just such a triangular format. The Chinese have for some time refused to participate in any strategic nuclear talks with the U.S. or the USSR. They insist that they are not in the same league with the two superpowers, and until both the U.S. and the USSR get rid of half their nuclear warheads, or at least make significant progress in this direction, they will not join any nuclear talks. Even to arrange meetings with Chinese scientists (who need governmental permission to meet foreigners), it has to be clear that the subject is not arms control or disarmament — taboo areas — but rather the "purely scientific issue" of the environmental effects of nuclear detonations.



The author close to the Yellow River, where ten million died in a manmade flood. The project under construction will pump the yellow water (it really is yellow) from the river to irrigate farmland.

With the assistance of a very helpful Foreign Service Officer of the U.S. Embassy, several meetings were finally arranged. In addition to the scientists present, both "sides" had political observers. The Chinese, the omnipresent "foreign affairs representative," and the U.S. Embassy sent not only the FSO who had helped with arrangements, but another observer, a "Third Secretary of the political/military branch."

I will describe here a typical composite meeting. I would begin with apologies for not speaking Chinese, explaining that when I was educated, German and French were the languages required for a degree. Some of the Chinese had likewise had to learn German and English. But, I added, when my college-bound daughter had asked me what language to study I had suggested she study Chinese. She had done so, and in fact was with me now on this trip functioning as guide and interpreter. This brought warm smiles of appreciation, and then amazement as she began interpreting. Then I would say that I am here on my own, not representing any government or any institution. After these preliminaries, I would outline the theory of nuclear winter, using the analogy of dinosaur extinction. Some had just barely heard of it; a few knew more about the technical aspects of it than I did. But none knew of the U.S./Soviet teleconference, which they found immensely interesting in both its technical and its political aspects, especially the statement which came to stand as a summary of the whole conference: "If Nation A were successfully to carry out a preemptive first strike against the missiles of Nation B, Nation A would thereby commit suicide."

When I mentioned the idea of doing a three-way teleconference on the subject, the responses were varied. All wanted more technical information: the original scientific ("TTAPS") paper,* any follow-up studies, and the videotape of the Moscow Link. Their own research on these phenomena is just beginning, but one scientist presented me with a paper she had just published showing the relationship between dust storms and ground temperatures in China for the last 3,000 years! Then — and this is the crucial point — someone would invariably refer to China's long-standing policy of not talking with the superpowers about nuclear weapons. I had

* R.P. Turco, O.B. Toon, T. Ackerman, J.B. Pollack, and Carl Sagan. "Nuclear Winter: Global Consequences of Multiple Nuclear Explosions." *Science* 222 (1983): pp. 1283-92.

THE first job of MoTzuing: creating conditions favorable to negotiations.

prepared myself for this objection and offered this response:

1. We are not proposing to talk about numbers or types of weapons, but about their environmental effects, in scientific, not political terms.
2. China has enough nuclear weapons to cause a nuclear winter by herself. (I had in fact seen a dozen enormous missiles trucked past our hotel in preparation for the first-of-October 35th anniversary of the Revolution.)
3. If the U.S. and the USSR fight even a "small" nuclear war, China will experience a nuclear winter. (Its much-heralded underground city of bomb shelters, which I explored, is now admittedly only a death trap.)
4. China is the only Third World nuclear power. As such, she can represent Third World interests, as well as her own, by participating with other nuclear powers in discussing the nuclear winter that would envelop the whole world in the event of nuclear war.
5. For these reasons, our responsibility as scientists, as research proceeds, is to bring the results to the attention of policy makers. This, in fact, was the common final resolve of both the Soviet and the American scientists participating in the teleconference last year.

I would characterize their reaction to my responses as "non-committal agreement." But they left no doubt that, as scientists, they would carry out extensive research in this area. When I characterized nuclear winter as an extreme instance of environmental warfare — very probably suicidal in the immensity of its impact — and linked it to the Yellow River disaster, they were visibly moved. I thought I sensed then a deepening commitment on their part. To a parting question probing a little further into why I had come here to discuss this I decided to risk a mention of Mo Tzu, the ancient Chinese philosopher and mediator, probably the first to condemn offensive warfare. I said there were a growing number of citizens in the West, working independently of their governments to make war a thing of the past, as Mo Tzu had first envisioned, and that his example was for us a source of inspiration. And I left them with copies

RANDOM THOUGHTS

和平

Out running late one afternoon in Zhengzhou, near the site of the Yellow River catastrophe, I stopped to watch a group of men playing basketball. Their game reminded me of how basketball was played in the 1950s in America, the game as I had played it complete with set shots, now obsolete on American courts. Presently, an older fellow dropped out and came over to talk. He was an environmental scientist, and all the players were either students or teachers at the Environmental Institute, the grounds of which I had strayed onto. He invited me up to his apartment to meet his family. On leaving it was arranged that I'd return the next day for another visit, and that I would bring my interpreter/daughter so that we could better communicate. When we arrived Sunday about noon, it was immediately clear that a feast was in preparation — in the eating, probably the best Chinese meal I've ever had. What could we do but leave his kids with the Michael Jackson cassette of *Thriller* which my daughter had with her? It went right into their ghetto blaster and the Institute grounds began to echo with most unfamiliar but, judging from the smiles, universally appreciated sounds.

墨子

On the Trans-Siberian, we befriended a little Russian girl and gave her a box of Chinese chocolates. Her father came to our cabin the next day and presented a smoked salmon, worth at least several hundred times as much as the chocolates. It lasted us for days.

和平

They actually do remove the wheels from trains entering and leaving the Soviet Union, and attach wheels of a wider gauge to fit their tracks. I watched the whole procedure at the border in Mongolia. It took over two hours. Their tracks are a couple of inches wider than the rest of the world's, a Czarist defensive measure offering some protection against invasions. A further proof that the Soviet Union regards Mongolia as another of its republics for military purposes is that the gauge of the railway track changes not on the Soviet/Mongolian border, but on the Chinese/Mongolian border. Poor Mongolia, once the proud conqueror of both Russia and China! And of course the whole procedure was reversed when we left the Soviet Union and crossed into Hungary. Perhaps it is a sign that one day the Hungarians will gain real independence — their rail gauge is that of Europe's, not Russia's.

墨子

I saw Mao. Waxy looking. Sure brings home the Vedantist notion that "We are not our bodies."

和平

During the nineteenth century when China was at its relative weakest, many of the European imperialist powers took a piece of China for themselves. So did Russia — a big piece. By the middle of the twentieth century most of the imperial nibbles were re-

of *Evolutionary Blues*,** which I suspect will amuse, bewilder, and intrigue them. In any case, they all definitely knew about Mo Tzu, politely correcting my tonal pronunciation of his name, and on that note of common ancestry we parted.

I talked with about a dozen scientists in four different sessions. They included meteorologists, atmospheric physicists, environmental engineers, and geologists. I am sending them the materials they requested, and after a suitable interval, follow-up visits with these scientists and others would be appropriate.

** *Evolutionary Blues (An Interhelp Quarterly)*, David Hoffman and Alia Johnson, Editors. $12 for a complete set of back issues from Evolutionary Blues, P. O. Box 4448, Arcata, CA 95521.

Crossing Siberia by train. No picture-taking, apparently, at railway stations. Moments after this shot our camera was temporarily confiscated, even though spy satellites can take clearer photographs.

TEN DAYS LATER I was in Moscow. In the interim, the chilling experience of crossing the heavily fortified garrison state of Mongolia had brought home once again that the threat of war, nuclear war, and nuclear winter is real. Amidst all those Soviet troops, barracks, airfields, and planes, of which certainly one sees from the train window only the tip of the iceberg, one may stored to China, with the exception of Hong Kong and vast chunks of Siberia. One reason for the enmity between the Chinese and the Russians is that the Chinese have indicated that they may reclaim this land as historically theirs. The Russians never return land.

墨子

We saw a fair amount of Chinese television. They show Japanese soap operas, and to our astonishment they advertise many very fancy, expensive goods, even personal computers! Who could possibly afford one? We know that many ordinary Chinese were watching this soap because we heard its theme song being whistled, sung, and played all over Peking the whole week we were there. The soap, by the way, was a steal of *Love Story*: beautiful young (Japanese) girl dying of leukemia amidst splendid surroundings and emotions. Both Western and Communist television exploit the innocence of children in commercials — the West in commercials that sell products, the Communists in commercials that sell ideology.

和平

A taxi driver in Peking, who told me his father was a high cadre, said that Mao and Stalin were alike: they both made big mistakes. And Khrushchev and Deng were alike: they both made little mistakes.

墨子

The Soviet Union is a police state with a snarl. China is a police state with a smile. In both countries the bottom line, against which all policy is judged, is Control. Does a proposed policy enhance or diminish our control of the people? That is the primary question. Productivity, efficiency, responsibility, these are all quite secondary to Control. We have all known *individuals* who are excessively concerned with control, usually the control of their environment so there will be no unwelcome surprises or even slight changes. Everyone in fact has this tendency somewhere within himself. It usually gets stronger with age. And healthy living requires finding a proper balance between an instinctive preference for controlling our environment and "rolling with the punches." The neurosis of the "control freak" is a deadly, life-suffocating, infantilizing one for all those around him. Well, the notion that kept presenting itself to me on this trip was that the Soviet Union and China, in their different styles, are "Control Freaks." China is less concerned about controlling foreign travelers than Russia, but more vigilant in controlling its own people. What can we do to enable these societies to feel safe enough so as gradually to shift their inner balance in the direction of letting go, and at the same time communicate clearly and without fear or belligerence that the problem cannot be solved by extending their control to include us? It seemed to me on this visit to the USSR that their rhetoric about equality is often used as a justification for extending their internal control. I am reminded of the remark of René de Chateaubriand regarding his countrymen. He wrote, "The French do not love liberty; equality is their idol. But equality and despotism have secret connections."

STALEMATED bipolar confrontations between the Soviets and Americans can be triangulated by including the Chinese.

experience a Great Doubt about the efficacy of any of this work in reversing the preparations for war. My efforts seemed like trying to stop a tank by dusting it with a layer of confectioner's sugar. Yet what else can be tried? Nothing I can think of offers any more promise at this point than to draw the Chinese into discussions (for example, of nuclear winter) with the Soviets and the Americans, thereby:

1. spreading the word about this intrinsically important phenomenon (with its hand-staying implications), and
2. triangulating the stalemated bipolar superpower dynamics, in a small symbolic way, to be sure, but possibly a precedent-setting one.

Upon arriving in Moscow, worn out from the 5,000-mile train ride from Peking, I first phoned journalist friends, American and Soviet, to let them know about the discussions I had just had in China, and to find out about the impact in the Soviet Union of the Moscow Link space bridge last year. As I was describing what I'd seen in Mongolia to a *New York Times* reporter, the phone went dead . . .

Suspicious timing, I thought, but who knows? That, in fact, is the principal reaction to most everything of a political nature in the Soviet Union: "Who knows?" Even after the most thorough intense study — as by the best journalists, foreign service officers, and scholars — one ends up being sure of very little. "Who knows?" might well be taken as the national motto.

Vladimir Posner, a Soviet journalist who worked with us on the Moscow Link and has appeared often on ABC-TV's *Nightline*, confirmed that 70 million Soviets had seen a one-hour documentary version of the nuclear winter teleconference. He said that said that 90 percent of the show was simply a rebroadcast of the conferees' statements, and accordingly that it was "on the dull side," as television goes. I expressed surprise that it had been aired at all and asked his explanation of this decision. He said that the key factor in its being shown was the value the Soviet authorities believe derives from their people seeing Soviet and American scientists participating in such discussions as equals. Later at the U.S. Embassy I heard that the day after the broadcast Andrei Gromyko, overheard in a chance airport encounter, had congratulated the head of Gostelradio for airing such an interesting program.

和平

In traveling about 9,000 miles — mostly by land — from Hong Kong to Budapest we crossed hundreds of rivers. Some of the big ones are: Pearl, Yellow, Yangtze, Angora, Ob, Kama, Volga, Moscow, Dneiper, Danube. East of the Urals they flow north to the Artic; west of the Urals they flow south, to the Caspian or the Black Seas. The Urals that stand so tall in the imagination as the continental divide between Europe and Asia are hardly even noticeable from the train. The only indication that this was a special place was an obelisk that supposedly marks the divide. But no mountains in sight.

墨子

A few breaches in Control (and in self-control): Soviet students, honored for excellence in school by being selected to goose-step around and guard the Eternal Flame in Irkutsk, broke down in one of those totally uncontrollable giggling fits that occasionally afflict teenagers worldwide. And the Mongolian border guard, inspecting our literature for material "offensive to the Mongolian People": for an hour he thumbed through all our magazines, gawking at the advertisements. Then with a certain mixture of embarrassment and haughtiness he refused our offer of them as gifts. But the inspector in the next cabin confiscated every picture magazine the occupants had: *Newsweek*, *Time*, *The Economist*, *Life*, etc., for later enjoyment and sharing with the boys at what must be the dreariest border in the world.

和平

A basic question on everyone's mind in China is whether the new "revisionist" ways will last, or whether, as so often in recent history, another round of chaos and revolution will follow. Everything I saw and read makes me think that China is at present totally "jagged out," that it is one of the last places on Earth where one could expect any revolutionary activity for years to come.

墨子

There was much news coverage of China taking over Hong Kong in 1997. Before then, if things continue the way they are going, Hong Kong will have taken over China.

和平

Breakdancing begins to incorporate into American dance some of the athletic, masculine quality found in Russian/Ukrainian dance.

墨子

I visited the Memorial to Edgar Snow on the grounds of Peking University. His book, *Red Star Over China*, which I read some 30 years ago, was the source of much of my fascination with modern

The most important follow-up in Moscow to my talks in China occurred at a reception the *New York Times* was holding for its visiting editor, Abe Rosenthal, attended by dozens of Soviet and American journalists, the American ambassador and his wife, and various Soviet officials, including Georgi Arbatov, the Director of the USA Institute and an advisor to the Politburo. I told Arbatov I'd been in Moscow a year ago to help set up the Moscow Link, which he knew about, and that I had a question for him. I first told him that I had just come from China, where I had been talking to Chinese scientists about nuclear winter and space bridges. He cut me off right there, anticipating that I'd gotten the stock Chinese response to disarmament issues, namely that they won't talk with either superpower until both have made significant progress in disarmament. I told him that I had managed to preempt this response by leading with reasons why it was invalid and inappropriate as applied to nuclear winter. I quickly gave him the reasons, and said, "I just wouldn't let them off the hook." He laughed, but he was interested. Presently he said, "What is your question?" I said, "It is this. Would the Soviet Union be willing to join with the U.S. and China in a three-way space bridge devoted to a follow-up conference on nuclear winter, or perhaps to a conference on the larger issue of environmental warfare?" He replied immediately and with great energy, "Yes. Let's do it tomorrow."

That's where things stand at the moment: I'd sum up by saying that these informal soundings were met with a yellow light from the Chinese, and a green light from the Russians. Now we need to devise plans for carrying things forward. More important than the particular subject of nuclear winter would be the instigation of triangular formats and processes, regardless of content. The more, the merrier. ►

An open-air market in Zhengzhou under a canopy of leaves, one of thousands of arbors planted in a nationwide tree-planting program.

China. His account of Mao and his revolutionaries was surely the journalistic coup of the century.

和平

People do not want war. They never have and they do not today: it is so clear when you talk to them, in whatever country. Leaders are another matter. War has often served *their* purposes. Nuclear weapons change that. Not even the leadership will benefit, or even survive, a nuclear war. This is perhaps a positive consequence of the increasing accuracy of modern missiles: instant Nuremburg.

墨子

Imagine "individual liberty" as an elixir that surfaced through a source somewhere on the borders of the North Sea about three centuries ago. Slowly, like a liquid, it began to spread out across the surface of the Earth, westwards across the Atlantic to the New World, eastwards across the continent of Europe, state by state, until, in modern times, it reached the Vistula. Will it eventually continue its steady creep across EurAsia until it meets itself coming across the Pacific, say, a century hence? I think so.

和平

The phrase "individual liberty" is of course quite ambiguous. I'm here taking it to refer to that basket of so-called "human rights" belonging to the individuals of, say, most parts of Western Europe and America. But there is another slant that can be taken on this. It is to judge a nation's degree of political modernization according to the extent to which it meaningfully legitimates dissenting views, or rather, simply represses them. To what extent is conflict *internalized* in some central visible institution (e.g., a "parliamentary" body), or to what extent does some executive authority hold that views contrary to its policy shall remain *external* to the political process and enforce this by suppressing them? The spread of individual liberty proceeds apace with the creation of institutions and practices that permit the internalization of the range of views and voices that reside within a given polity. I suspect that in the Soviet Union and in China, a greater part of this range of voices has been internalized than is generally realized in the West. This is not to say that "the full range" has been included — we know it has not. And, in any case, this is a continuing process in *all* countries, Western ones included. Furthermore, those conflicting voices that have been internalized are largely hidden from the public, so vicarious conflict resolution and policy development does not occur as it would if everyone was watching and listening and recreating the process for themselves in small groups. Nevertheless, the internalization of conflict — on the individual level, taking opposing voices into the self; and, on the group level, into the organs of society and the State — seems to be an irreversible and an inexorable process. The elixir continues to spread.

An Open Invitation to Go "MoTzuing"

ANYONE is free to hoist the Mo Tzu banner (it is non-proprietary as well as non-partisan). A wide range of activities has been carried out under it. In the past, MoTzuers have:

1. Networked, connecting people of similar mind and purpose, as well as brought into communication people of differing mind and purpose.
2. Used television, to sound the alarm regarding nuclear war, to bridge between groups in the U.S. and the USSR, and to educate about the possibility of handling conflict without war.
3. Used radio and print media to help people envision a world without war and urge people to play their personal part in creating such a world — specifically, to *stop postponing doing the thing they have long imagined doing*, and to go "MoTzuing" in their fashion.
4. Invited opponents holding partisan positions into the task of finding a solution to their conflict that protects the vital interests of all parties.
5. Delivered *Evolutionary Blues* to strategic people and places.
6. . . .

These various activities have in common that they are all undertaken by private individuals with the purpose of creating the conditions for handling conflict peacefully. Seldom, if ever, does MoTzuing take the form of actually mediating or resolving an international or intergroup conflict. Such conflicts are too complex and too specialized to permit an outsider, however well-intentioned and well-informed, to be of much value. The nitty-gritty details of peace-making necessarily fall to the partisan participants themselves. But *there is another prior job: that of creating conditions favorable to negotiation*. Sometimes this takes the form of creating the willingness to meet, perhaps by way of both sides trusting in a third party. Sometimes it takes the form of attempting to alter the format or the context of the negotiations.

This amounts to another "mode d'emploi" for Mo Tzu. It was in this mode that I was MoTzuing in China and Russia, via the "vehicle" of nuclear winter. In effect, I was attempting to plant an idea that eventually might have the side benefit of reformatting the impasse, that is, shift it from the confrontational "hard eyes" glare to a more peripheral "soft eyes" gaze, consequent upon there being more than just one other party involved.

To do this kind of MoTzuing it is invaluable that one not be identified as a spokesman for some government or even some institution. Although it is always a little awkward at first not to have a title, in the long run it is an advantage. People cannot pigeonhole your position and therefore are less apt to dismiss it out of hand. Furthermore, a free agent can say outrageous things with no offense intended and no offense taken. He can invite people to explore positions they would have to decline even to consider if presented officially. In short, institutions can't talk freely, but individuals can. This is the unique and essential service MoTzuers can provide: Planting new ideas right in the laps of those stuck in impasses created by the rigidities of institutional interaction, and engaging these people directly, in person, in ways that are exciting and fun and help them endure and enliven their work.

A proposed motto for such Mo Tzu free agents:

"Patience and pluck,
versatility and luck." ■

For other examples of MoTzuing, see these articles from past issues of *CoEvolution Quarterly*:

"Our Enemies, Our Selves," Spring 1980.
Robert Fuller and family trek across the Soviet Union.

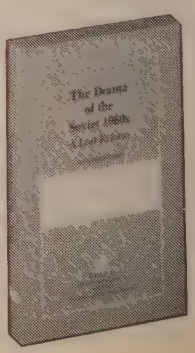
"The Mo Tzu Project: Personal National Peace-finding," Fall 1982. Robert Fuller and others in the Mideast.

"Mo Tzu in Kenya and Poland," Spring 1983.
Robert Fuller and others in Poland and Kenya.

The Drama of the Soviet 1960s

ROBERT FULLER: The most interesting book I have read on the Soviet Union in many years is ***The Drama of the Soviet 1960s*** *by Alexander Yanov, just published by the University of California Press. I read it on the train in Siberia. Yanov lived in the Soviet Union until 1974 when he was forced into exile. He claims to be the only person to have published articles in* ***Pravda***, ***Izvestia***, *the* ***New York Times***, *and the* ***Washington Post***. *This book is about Soviet agricultural reforms undertaken in the '60s, reforms which offered great promise and even recorded very significant results, but which died with Khrushchev's ouster essentially because they involved a loss of political control by party officials. When I mentioned the book at lunch in the U.S. Embassy it precipitated a mock fight between a Foreign Service Office agricultural specialist and a reporter for the* ***New York Times*** *over who would get to read it first. After them it goes to the* ***Washington Post*** *correspondents, and from there it goes to the Soviet press corps, I hope.*

The Drama of the Soviet 1960s
(A Lost Reform)
Alexander Yanov
1984; 161 pp.
$9.54
postpaid from:
Institute of International Studies
Publications Office
215 Moses Hall
University of California
Berkeley, CA 94720
or Whole Earth Access



SaddlePack

J. BALDWIN: For you, not your horse. This daypack rides on the slope just above your buns instead of dragging incessantly and sweatily on your back and shoulders. It's held in place by an enormous integral cone-shaped beltthing. The load (up to ten pounds) is distributed over your anatomy with help from a stiff internal foam pad that also repels any hostile contours possessed by the contents. I found the SaddlePack to be a lot more comfortable than a typical daypack or even a much smaller fannypack. It's nicely made of good stuff. It may or may not fit everyone — people come in a wide variety of shapes and sizes — but it sure fits me, and I like having my arms free. And my down jacket unmashed. And being able to reach in without taking it off. It carries as a totebag, too.

SaddlePack
$49
information **free** from:
New Tribe
3435 Army Street, #330
San Francisco, CA 94110

Lowe Alpine Systems

J. BALDWIN: Despite advertising huff and puff, most backpacks in the same price and use category are more or less similar except for details. The heavier-duty models (four times the capacity of a daypack) also tend to share a flaw: the adjustments necessary for a good fit require fiddly rituals involving a snake's nest of buckles and belts. If you have an uncommon build, these adjustments can take an annoying amount of time. They often have to be repeated if the load changes or you shuck a thick sweater as the day warms.

The well-regarded Lowe brothers answer this problem with Torso Trac, a system that lets you move the entire pack up or down as much as a foot with respect to the suspension. All it takes is maybe one minute twisting a coin in two giant screwheads. It works better than you'd believe, and to me represents one of the few real ''breakthroughs'' in pack design. By the way, for travelers, the system is available on a pack that zips all the suspension components into a separate compartment, leaving you with a chic suitcase. As you'd expect, this sort of advantage doesn't come cheap. But Lowe equipment has a well-deserved reputation for toughness; you'll probably be able to leave the thing to your grandchildren.

Lowe Alpine Systems
See your local mountain shop

Catalog **free** from:
Lowe Alpine Systems
P.O. Box 189
Lafayette, CO 80026

Adjusting the internal frame of the Expedition Pack.

$210-$225

The Odyssey converting to luggage.

$98

Free Campgrounds

KEVIN KELLY: That's right. Over 6,000 drive-in campgrounds that really are free. The owners earn your keep from laundry machines, groceries, gas, and what-have-yous, or in the case of the state parks, from taxes. Some are free year-round, some only in the off-season. This should go in the car next to your road atlas.

•

Powder Mill, Missouri
Ozark National Scenic Riverway

Directions: 12 mi E of Eminence on MO 106.

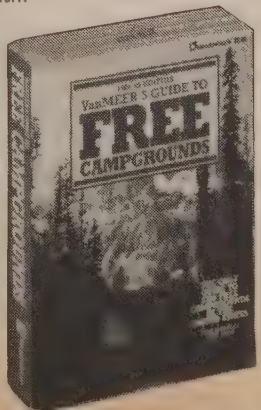
Season: All year, 14-day limit.

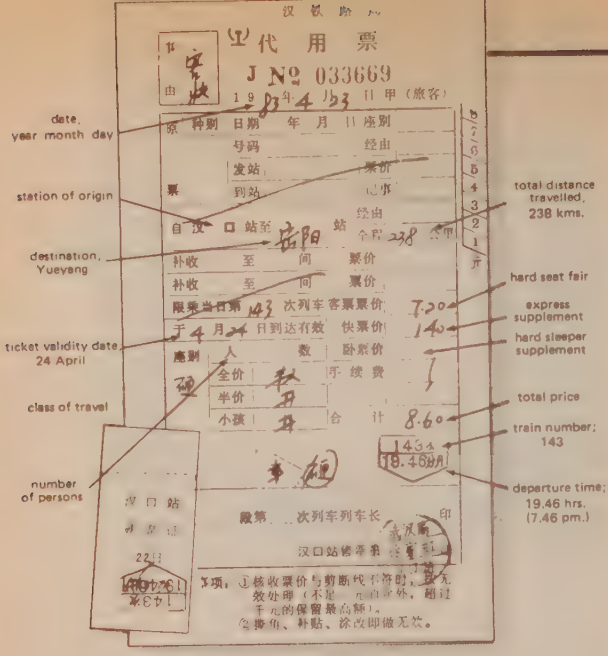
Facilities: 27 sites. Tbls, toilets, cfga, firewood, drkg wtr. Store nearby.

Activities: Picnicking; swimming; fishing; boating (rl).

Miscellaneous: Pets on leash.

VanMeer's Guide to Free Campgrounds
(1984-85 Edition)
Mary VanMeer, Editor
1984; 537 pp.
$11.50
postpaid from:
Meadowbrook, Inc.
Dept. DM
18318 Minnetonka Blvd.
Deephaven, MN 55391
or Whole Earth Access





China

ORVILLE SCHELL: Now that China's leaders have adopted a new "open door" policy towards the outside world, travel possibilities have loosened up in the People's Republic. Once, all travellers had to sign up with a group in order to gain entry; now individuals can simply go to Hong Kong, pick up their own visas, and slip across the border. The main problem involved with this kind of solo travel has been that without a guide it is often difficult to find one's way around the country, since few people speak fluent English. Here's 800 pages of help for anyone who wants to know how to take buses, boats, and trains on their own, where to find inexpensive lodging, and how to get outside the deep ruts left by the juggernaut of tours now swamping China. The guide's two Australian authors have written a witty, up-to-date, and enormously informative guide for adventuresome people (like themselves) who want to travel about China as the spirit moves them. They approach it with just the right mixture of curiosity, respect, and cynicism. Almost everything they say — and some of it is extremely insightful and funny — rings true to me. Once I picked their guide up, I not only found it hard to put down, but found myself wanting to leave for China again to poke around in some of the places they suggest.

China
(A Travel Survival Kit)
Alan Samagalski and Michael Buckley
1984; 819 pp.
$15.95
postpaid from:
Lonely Planet Publications
P.O. Box 2001A
Berkeley, CA 94702
or Whole Earth Access

KEVIN KELLY: Since last October when this guide was published, the Chinese government has fully opened ancient Tibet to individual travelers. The first trickle of round-eyed, blue-jeaned vagabonds is entering now. There is one short chapter in this book for them.

◄◄ Deciphering a train ticket:

At left is a tourist price rail ticket; the ticket is for a hard seat on train No. 143 from Wuhan to Yeuyang. The train travels a total distance of 238 railway kilometres and the ticket is valid for two days. Total price is Y8.60, of which Y1.40 is the express train supplement. The triangular-bottomed stamp in the bottom right-hand corner of the ticket shows the train number and the time of departure.

•

It's worth hanging onto cheap room or dormitory hotel receipts — the fact that you've been allowed to stay cheaply at some other hotel will weigh in your favour at the next place you're trying to get cheap accommodation. Likewise, hang on to any Chinese-price tickets you happen to buy.

■

Shanghai's thrills and spills are in the streets. If the world ran out of gasoline tomorrow it would hardly make any difference to the noise level in Shanghai — but even despite the lack of motorised traffic the place still has some of the most insane collections of hybrids on two, three and four or more wheels. Coming through the insectoid rush-hour is a legless rider using his hands to crank up the rear bike drive, then a truck-class tricycle with the rider pedalling backwards (using a rear sprocket and chain arrangement); walls of pedestrians spill over into the vacant bike lanes of Nanjing Rd, whilst retired men with 'serve the people' armbands hurdle the railings to try and nail jaywalkers. As early as 5 am the city is alive; mass taichi in the parks, whilst the younger set go for the more exotic martial arts, and there's the inevitable jogging and even playing frisbees.

International Workcamp Directory

RICHARD NILSEN: For more than 60 years, since WWI ended, International Workcamps have provided a way for people to think globally and act locally. Last summer there were more than 2000 of these two- to four-week camps in Europe alone, not counting those in Russia, Turkey and Nicaragua. In fact, the catalog says they are the "only sizable medium of citizen exchange across the Iron Curtain." The camps run in the summer only and do good-works type projects — you'll exercise your muscles a lot. The rules are: you donate your labor, pay for your own travel, and you don't have to speak a foreign language. They take care of everything else.

■

Unterhaching 1, West Germany 15 volunteers
The newly built up "Wohnstift am Parksee" is meant to become a home for old people, which allows them to live in their own privacy. They will not be controlled and are free to lock their doors. The volunteers help with house moving of the old people, which might be an exciting experience. Those who are interested might help on the sick ward. Accommodations are in the home. Located in a small town of 20,000 pop.

■

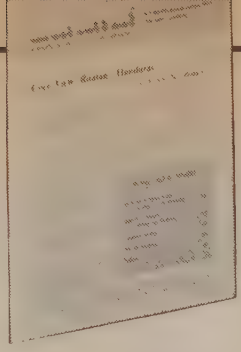
Zbroslawice Riding Camp, Poland 10 volunteers
Work on the student horseback riding center doing carpentry, cleaning and grooming the horses. Volunteers will be able to horseback ride daily. The camp is located in the Upper Silesia Region, near Tarnowskie Gory in the countryside.

■

Ecological camp, Finland. 15 - 17 volunteers
Karttula, near Kuopio. There is an ecological project started some years ago in Karttula municipality in the

Undercurrent

DAVID BURNOR: Like their computer counterparts, scuba diving publications tend to carry a heavy advertising load: scuba is an equipment-oriented sport, most of it expensive, and manufacturers abound. Resort owners all claim that their patch of sea-bottom has the clearest water; each dive shop has the best prices. What you don't get from the ads, or the editors in most cases, is a no-holds-barred, critical review of the diving marketplace. ***Undercurrent*** *fills the gap. With no paid ads, they're not beholden to anyone. Like restaurant reviewers, their critics visit diving resorts anonymously — getting the same treatment that you will — and present a full report, warts and all. Unbiased equipment evaluations, practical consumer advice, and sound safety tips round out each issue.*



Undercurrent
Ben Davison, Editor
$23/year (11 issues)
from:
Undercurrent
Atcom Building
2315 Broadway
New York, NY 10024

•

Design of wet suits has also changed. The results of our '76 survey indicated strongly that an attached hood was warmer. Today you have to look long and hard to find someone who orders his suit with the hood attached. There are also fewer Skin-in and Skin-out suits reported. There is also a marked decrease in ankle, waist, wrist and side zippers used in suits; we suspect that a statistual correlation could be found — the fewer the zippers the warmer the suit.

•

When the San Francisco 49'ers take to the gridiron in sub-freezing weather the equipment manager makes sure they're wearing the appropriate scuba gear . . . they've discovered that neoprene wet suit gloves can keep their hands warm while giving them enough flexibility to hold a football.

•

The AMF-Voit mouthpiece leaves something to be desired. The thickness of the bite-block is 10mm, by far one of the worst. It is placed too far forward, causing the jaw to come forward and placing added strain on the muscles. At nine mm the bite-block's width is fine, but we cannot explain why holes have been placed in the bite-blocks themselves. . . .

AMF-Voit

The best mouthpiece to date is produced by Dacor. Made of silicone rubber, it can be easily formed to any mouth size. The bite-block thickness is an ideal four mm. The mouthpiece flange is thin and soft enough not to impinge on the gum tissues. . . . The Dacor model has proven to be the most comfortable mouthpiece we have tried. We congratulate them, they must know a good dentist.

Dacor

Alaska-Yukon Handbook

KEVIN KELLY: The handiest guide yet for bumming around the north country as a first-time visitor. The easiest way is via the ferry-world of Southeast Alaska's Inside Passage, which is covered in detail (you can pitch your tent on deck as a free "room"). It also tells you any known tricks to beat the ultra-high cost of foraying into the more accessible spots in the interior.

Alaska-Yukon Handbook
(A Gypsy Guide to the Inside Passage and Beyond)
David Stanley
1983; 231 pp.
$9.20
postpaid from:
Moon Publications
P.O. Box 1696
Chico, CA 95927
or Whole Earth Access

•

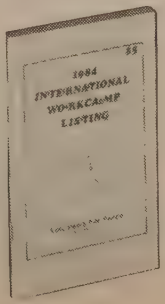
The Klondike Visitors Association owns a claim at Grand Forks where you may pan for gold as much as you like free of charge (bring your own pan). . . . If you wish to pan elsewhere in the Klondike, ask permission of the claim holder first. Although present-day miners own the mineral rights, they do not own the land itself. You're within your rights to wander where you please, but keep clear of any active mining operations.

•

Denali is one of the easiest national parks in the U.S. to visit without a car. Free yellow shuttle buses run 20 times a day from Riley Creek Visitor Center to Eielson Visitor Center (106 km) and Wonder Lake (135 km). The trip to Eielson takes 7½ hours RT, to Wonder Lake 10 hours RT, so get an early start. The first bus leaves Riley Creek at 0600, but you have to be there by 0530 to get on. The morning buses fill up fast. You may get off and on the buses wherever you like along the route. Take your own food and water with you, as none is available in the park.

village of Syvanniemi. The authorities support experiments which try to use products of nature, for example, herbs and plants, honey, birch sap. The volunteers will build a structure to dry herbs and to gather different kinds of herbs. Some time will be used for cleaning and repairing the houses where the campers dwell.

International Workcamp Directory
$10 (**$5** student) annual membership (includes current Directory); newsletter **free** from:
Volunteers for Peace
Tiffany Road
Belmont, VT 05730



Erecting your own nylon stateroom on deck in the heated solarium is common practice on the long journey north from Seattle to Alaska.

Counterpoint Opus II
$2695
information **free** from:
Counterpoint Conveyance Ltd.
P.O. Box 33475
Seattle, WA 98133

Counterpoint Opus II Tandem

J. BALDWIN: Why would anyone make a thing like this? Folks who have attempted to ride a tandem with a partner of unequal size and power know why: a regular tandem just isn't any fun that way. Friendly captains (the front person on the usual tandem) can't talk with their stokers (the one in back) either, they're too far away. Yet a good tandem team enjoys the kind of oneness that is hard to find any other way except perhaps while canoeing.

The Counterpoint Opus II solves the problem, though you might not think so by looking at it. In addition to letting both captain and stoker see the road ahead, this layout allows easy conversation (and goading, heh heh). The best part, though, is that the front-mounted stoker can set his cadence independently of the captain. A racer can ride with a stoker of greatly different ability without either being mad. The idea works well enough to have been very successful in HPV (Human Powered Vehicle) contests of speed — it was among the top contenders for the record in the unfaired division. I have not ridden one, but a number of respected testers think it's a good machine, certainly worth considering.

Midvale Books

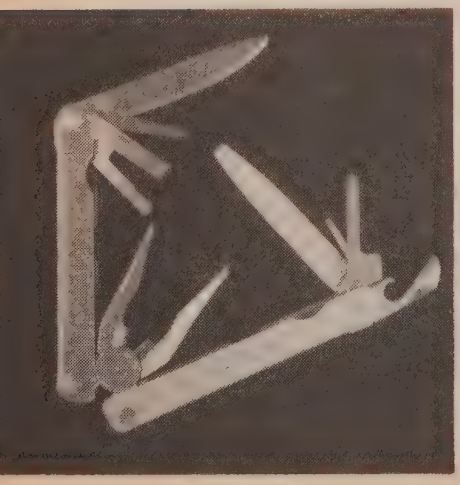
J. BALDWIN: This store has a catalog of 300 bicycle books, new and used, in print and out, plus posters and other bikementia. It's the biggest listing I've seen. Their service on my order was fast and proper.

Midvale Books
Books About Bikes
Catalog **free** from:
Midvale Books
155 S.W. Midvale Road
Portland, OR 97219

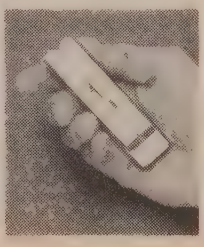
Pocket Survival Tool

J. BALDWIN: This toolbox-on-your-belt acts a lot like an industrial-quality Swiss army knife, but with one major difference: it can bite. The pliers/wire cutter jaws enable you to deal with situations that require nabbing and twisting. You needn't fear that fatal SNAP! either — I was unable to deform the jaws, nor could I persuade any of the several screwdriver blades to part company with the stainless steel handles. Other blades include an effective can opener that refrains from simultaneously opening your hand, a sturdy knife blade, an awl, and a file that is also supposed to be a saw blade but isn't. All the blades lock open. Closed up, the whole kaboodle rides in a leather case not noticeably larger than its Swiss rival. If the tool selection meets your needs, it looks good. (It doesn't meet Stewart's . . . no toothpick.)

[Suggested by Ross Scalise]



Pocket Survival Tool
(Catalog no. 6222U)
$40
postpaid from:
L.L. Bean
Freeport, ME 04033

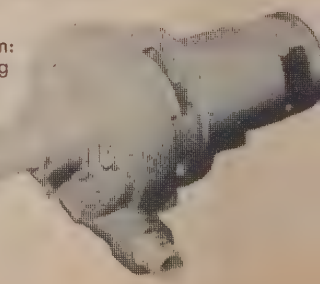


Radial Reaction Turbine

J. BALDWIN: The majority of very small hydroelectric generators are of the Pelton type: a nozzle blasting little "buckets" on the rim of the wheel. There's another type, the radial reaction turbine, which is essentially a centrifugal water pump being run backwards by water pressure. Where available pressure is meager ("low head"), this type can be more efficient than a Pelton. It also allows more flexibility for placing the set on your property, as the machine can be situated as much as 20 feet above the creek (and above potential flooding) without losing power. The folks that make this set have also worked out a way of utilizing very low-flow water sources: the source fills a tank or pond which is then discharged through the turbine until the reservoir runs out. The valve shuts off the flow to the turbine, and the cycle starts over.

*As with the small Peltons (**CQ** Summer '84, p. 82), I am not recommending this particular machine over any other. It does appear to be well made, but the small hydro field is currently seething with pioneers and it's difficult to tell which will turn out to be the best. It's certainly worth a look if you have a suitable stream nearby, for this sort of rig can outperform most other alternative power sources.*

Radial Reaction Turbines
about **$750**
information **free** from:
Homestead Engineering
32801 Highway 36
Bridgeville, CA 95526



Alternative Light Styles

J. BALDWIN: Smarty title, useful book. If you don't have access to a grandparent with pre-electricity rural experience, you probably have no way to find out how to choose, maintain, and safely operate non-electric light sources. This modest book will fill you in. You'll also get a good discussion of the rumored radioactivity of lamp mantles. The author gives the available evidence and then makes a good case for not worrying too much. He does recommend that you burn in new mantles outdoors, downwind from your nose. Good book if you need it.

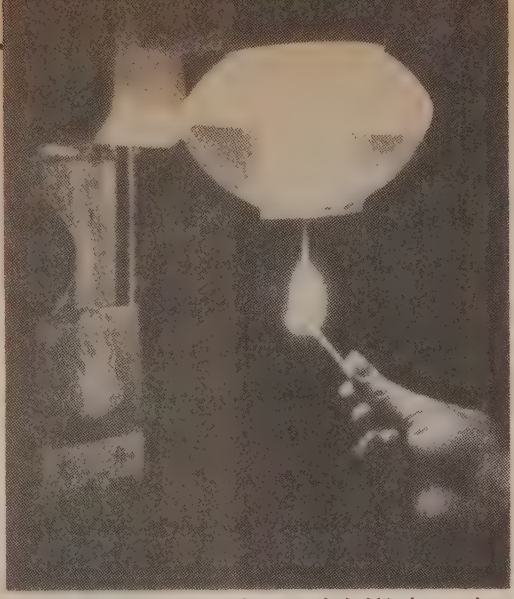
Alternative Light Styles
(The Lamp Keeper's Guide to Illumination Beyond the Power Lines)
Tim Matson
1984; 95 pp.
$9.45
postpaid from:
The Countryman Press
P.O. Box 175
Woodstock, VT 05091
or Whole Earth Access

•

Besides cutting the utility bill, those of us outside the main current often find that "non-electric land" is a very good buy. The soil is likely to be richer and the forest thicker. Certainly the price tag will be lower, along with the taxes, not to mention fuel bills. It costs me less than $100 a year to power the lights. But don't get me wrong. With gas-powered lights, stove, and refrigerator, and fire view wood stoves, I can't exactly call myself a primitive. An energy vegetarian, perhaps.

▪

How about LP compared to kerosene, Coleman fuel, or white gas? I've found that none of these burns significantly brighter than LP [liquid propane], yet the fuel is often two to three times as expensive. Other factors in cost comparisons include the gaslight itself, tubing, and installation. Again, gaslight compares favorably with its closest indoor competition, the Aladdin. A single gaslight will cost about $30, plus the price of a few yards of copper tubing.



To ignite liquid propane, strike a match, hold it close under the mantle without touching it, and turn on the gas.

•

Before the advent of tight houses, natural air leakage in a home usually provided enough ventilation. Today, the question of ventilation is more important. After talking with several gaslight manufacturers, and an importer of lighting accessories, I'd say that the consensus on gaslight ventilation hovers between two and three cubic feet of air per hour per light. In old (leaky) homes, natural air exchange should be more than enough for several gaslights. To ventilate airtight houses, a nearby window should be left open slightly at top and bottom. Everyone I talked to agreed that gaslights and small, airtight enclosures don't mix.

Two disadvantages of the traditional Coleman lantern are overcome in this Wetmore-Ceres Parlor Lamp. The two-quart reservoir doubles the fuel capacity of the Coleman, and the lamp housing has been opened up to yield more light. Designed for indoor use, it's popular with the Amish, who shun electricity. This modified Coleman also has a shade.

A Catalog of Independent Power Systems & Components

J. BALDWIN: Who knows best which components work well together? Not the manufacturers — they only know their own products. Not the individual owners of various hardware — they only know their personal experience. It takes a well-established dealer that's been in business a few years to develop reliable advice. This catalog represents a lot of field experience. It features groups of devices chosen to work together as complete systems. For example, you can order an entire photovoltaic-powered water pumping system ready to install. No need to sit down and try to figure your way through the maze of choices. This is a much-needed service and may be regarded as a healthy sign that the "alternative energy" business is maturing into a mainstream enterprise. This is not to say that the hardware choices in this catalog are beyond controversy — it's still a business redolent with opinion and active experimentation. But outfits like Independent Power Co., who do a lot of installing as well as mail order, are probably the most trustworthy advisors around these days.

A Catalog of Independent Power Systems & Components
$5
postpaid from:
Independent Power Company
12340 Tyler Foote Road
Nevada City, CA 95959

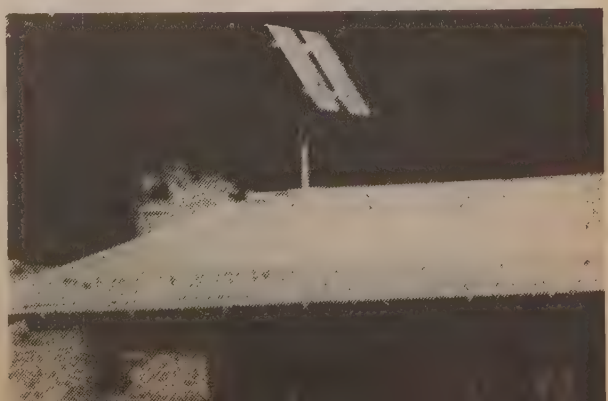
•

Cabin 12-Volt DC Independent Power System

Package Includes:
2 - M53 43-Watt Panels
2 - GC2H 220-Amp 6-Volt Battery
1 - SCI II 12-Volt Controller
1 - Standard Support Structure
1 - Wiring Harness
1 - Panel Interconnect

This is our basic starter system for remote cabin or home. With this controller you are able to add up to 10 or more 43-Watt panels. As is, it can power lights, entertainment appliances and kitchen appliances for a cabin.

Power Budget . . . 350 Watts Per Day. Cost: $1,595.00



Temporary braces are applied to the bent to stabilize it. The opposite wall bent, lying in the foreground, is next. The remainder of the timbers are carefully stacked according to their placement in the frame.

Timber Frame Construction

J. BALDWIN: When a book is deservedly successful, it soon breeds imitators, many of which are superfluous. The competent ***Building the Timber Frame House*** *(NWEC p. 226) seemed so comprehensive that it comes as a real surprise to see that this book has lots of details and tricks of the trade not covered before. There's also a very well-illustrated sequence on building a beginner's timber-framing project (a garden shed/garage). As a strong proponent of doing one's homework, I'd recommend reading both books before you start cutting.*

•

Have your timbers center-cut. This not only makes the timber stronger, but it also makes knots less of a problem. Why? Knots, since they are branches, start from the middle of a tree. Therefore, they will not go from one side of the tree to the other. A timber taken from a quartered tree could conceivably have a knot entirely through it. And knots can fall out, thus weakening the timber.

•

In earlier times, there were basically two methods of raising timber frames, using man-power or machine-power. For smaller buildings, there was the raising with a great throng of helpers, most of them inexperienced with building, enjoying the food, drink, dancing, and general celebration. The master builder would, of course, direct all that energy in a useful manner and even a good-sized house frame went up in less than a day.

These raisings were limited by the height of the bents, since people could reach up only so high. Other raising methods were invented that employed some ingenious lifting devices and a smaller crew. The most important of these devices was the gin pole. A tall, straight pole, it was held in place by guys like a modern radio tower with a slight lean to it. A block and tackle for lifting heavy bents was attached to the top of the pole.

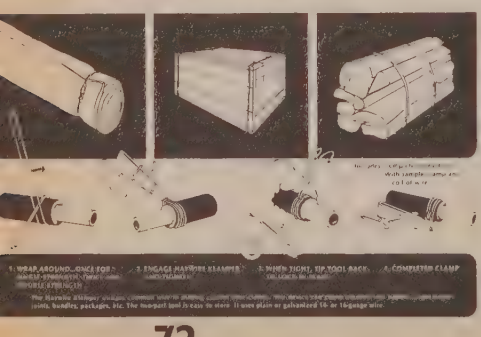
These mallets were made on-site from the tree. The tapered handles are driven through 1-, 1½-, and 2-inch diameter holes in the head. The large mallets, or commanders, are used in frame assembly.

Timber Frame Construction
(All About Post-and-Beam Building)
Jack Sobon
and Roger Schroeder
1984; 204 pp.
$14.70
postpaid from:
Garden Way Publishing
Attn.: Mail Order
Schoolhouse Road
Pownal, VT 05261
or Whole Earth Access

Haywire Klamper

J. BALDWIN: This utterly simple little dingus mercilessly tightens 14- to 16-gauge wire (as in fence- and baling-) into a hose clamp affair. And what a clamp! Its diameter, which needn't be round at all, is limited only by the length of the wire; you can band, bundle, strangle, clamp, and squeeze anything you can get the wire around. Interesting possibilities thus arise: how about making a trellis or arbor from saplings or bamboo? The device clamps pipes together at right angles so tightly they don't even wiggle. In fact, I found you have to be careful not to squash plastic pipe. The manufacturers say they've made up a canoe from Klamped willow wands and a tarp, and I can believe it. The thing is rather fiddly-diddly the first time out, but you soon get the hang of it. The directions are aided by a sample Klamp included with the tool and a length of wire. Bet you never knew how much you needed one of these things.

JAMES DONNELLY: I bet it'd be good for holding awkwardly-shaped objects so you can weld them, (you could even substitute a length of brazing rod for the haywire), as well.

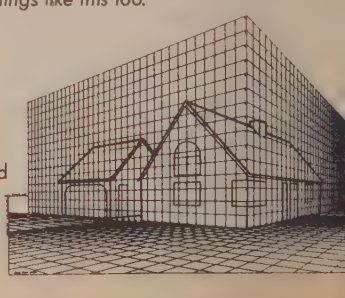


Haywire Klamper
$8.35
postpaid from:
Woodbern Manufacturing
P. O. Box 353
Libby, MT 59923

Architect's Drawing Kit

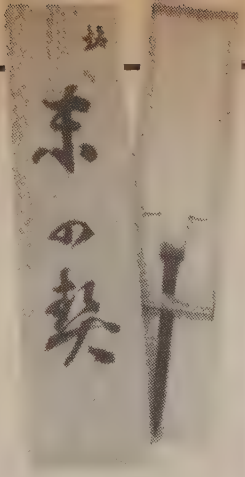
J. BALDWIN: You don't know how to draw, right? Especially perspective drawing. How are you going to visualize what the proposed attached greenhouse is going to look like from the street? From inside? With this kit, an architect shares with us an old professional trick: perspective charts. These are 9" x 12", the same size as common drawing paper. What you do is choose a chart that represents most closely the view you wish to take. Tape a sheet of translucent drawing paper over the chart and start counting the squares in the chart grid to obtain the desired sizes. Then draw whatever it is you have in mind. Just use a ruler. All the proportions and angles will come out so well you may be amazed if you aren't used to this sort of thing. There are charts for interior and exterior viewpoints from various angles. All are explained in non-technical plain breadwrapper language. They are truly useful for inexperienced beginners as well as pros. The only quibble I have is that charts tend to encourage angular thought because there aren't any curves shown. Of course you can curve if you want to, but it isn't easy psychologically. You can also use the charts for non-architectural drawing. Handy and timesaving. I've used them for years. Kids love things like this too.

Architect's Drawing Kit
Daniel K. Reif
$14.95
postpaid from:
Design Works, Inc.
11 Hitching Post Road
Amherst, MA 01002



Masterpiece Tools

*J. BALDWIN: "Tools-as-jewelry" is what we've called the ultra-high-quality offerings of such companies as Garrett Wade and Woodcraft Supply (**NWEC** p. 142). Their tools can be used of course, it's just that they are so beautiful it seems a shame to mess them up. In any case, they are an expression of the character of both their makers and users. At Masterpiece Tools they take this all a step further: Tools as Art. Lest you think I exaggerate, check page 22 of their gracious catalog: 210-mm Tama Hagane Sword Steel Ryoba, "Promise of the Future" by Miyano Tetsunosuke. $12,000. That's twelve thousand dollars. The catalog takes lots of space to explain what's going on to those of us who know no better. It tells of the master saw maker and how he works and why the tools are so incredibly perfect. I confess that I'd never thought of tools in this way. I also confess that this is the most extreme example. There are plenty of tools here in the several-hundred-dollar range — planes, chisels, Bonsai instruments, and sharpening stones. There are also many that are eminently affordable by ordinary workers who will appreciate and use the extraordinary quality and traditional forms. Even if such things aren't going to tempt you into uncontrollable buying, you might enjoy the catalog; it's truly an education in itself.*



210mm Tama Hagane sword steel Ryoba, "Promise of the Future," by Miyano Tetsunosuke.

The venerable Miyano Tetsunosuke at his ancient reed and mud forge.

Masterpiece Tools
catalog
$5
from:
Mahogany Masterpieces
RFD 1, Wing Road
Suncook, NH 03275

•

The history of Japanese toolmaking revolves around the individual craftsman and his hand working techniques. Japanese woodworking tools aren't better because they're made by the people who brought us Sony TVs, Nikons, and Toyotas. To the contrary, our makers shun that life of conformity and mass production. Our masters — in a very real sense — are as foreign in today's Japan as they are in the West.

Wood Finisher's Handbook

J. BALDWIN: Few do-it-yourself enterprises are as redolent of potential disaster as applying that final finish to wood. Even the more obedient among us — those who read the instructions on the can — often come to grief, gnashing in despair as our paintbrushes with their cargos take on a life of their own quite out of control. How do those creeps in Fine Woodworking do it? They know what's in this book, is how.

I like the way the author answers your questions just before you ask. I also like the range of techniques shown — everything from "lost art" procedures to the latest in chemical wonders. The book is easier to read than many of its genre, so our last excuse for imperfect finishing is gone.

•

Tung oil is one of the major ingredients in most penetrating finishes. It is also called China nut oil, China wood oil, or nut oil. It is a natural oil obtained from the nut of the tung tree. . . . It produces a finish that is waterproof and is not affected by alcohol, fruit acids, carbonated drinks or acetone.

Tung oil is one of the more expensive ingredients in a finish, so it is used in varying concentrations in different products. Products containing high amounts of tung oil will produce a very good finish, and they possess the ability to build to a high gloss with successive coats; but the novice will find that products that contain less tung oil may be easier to use because they contain other ingredients that make the application easier.

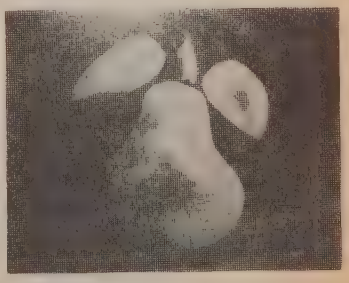
Wood Finisher's Handbook
Sam Allen
1984; 160 pp.
$11.20
postpaid from:
Sterling Publishing
2 Park Avenue
New York, NY 10016
or Whole Earth Access

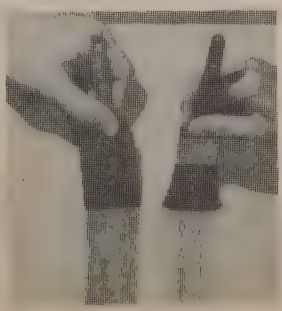
•

Here is a recipe for a stain that will match most weathered wood: Pour about half a cup of paint thinner into a small container. Add enough zinc white and lamp black to make a silver grey color that is close to the general color of weathered wood. Add about two tablespoons of boiled linseed oil and one tablespoon of flat varnish to the stain. Now use some very thick oil colors. Add small chunks of burnt sienna, raw umber, and burnt umber to the mixture. Don't try to mix these thoroughly into the stain. The purpose of these colors is to create random variations in the color as the stain is wiped onto the wood.

Apply the stain with a rag to the cut edges of the barn wood. As a particle of the unmixed pigments reaches the surface, the rag will smear it into a long streak simulating the variations found in the original surface. This technique requires some experimentation to find the correct color mix to exactly match a particular piece; but where the cut edges are not too conspicuous, it is only necessary to give the wood a general weathered look to sufficiently disguise it.

Bronze powder stencilling can produce a shaded effect, as seen in this stencilled pear.





Foam brushes are very good for applying stain. In this comparison between a foam brush and an inexpensive nylon brush, notice that the foam brush carries more stain and leaves a smooth application of stain without brush marks.

"I Don't Wanna Be A Middle-Class Jerk."

Mike, 19

Q: When did the first punks appear in East Germany?

A: The first punks appeared here about the same time we got information from the West about punks there, in London or somewhere. They got put down by our press here. A lot of us really liked that, the way they wore their clothes, cut their hair — the heavy image. Of course, the feeling was already here before that. Plenty of younger people here have got a no-future attitude.

Q: What were your reasons?

A: First to look different and break out of the uniform mass. Another reason was my middle-class, materialist parents. There's other reasons, too.

Maybe I just don't like being German. Germans are by nature "Kleinbürger" and "Spiesser" — good little citizens and middle-class materialists. I hate the false front and the mask that's always there and nobody ever takes it off! Nobody ever does what they really want to. There's always a limit to everything.

I wanna go beyond the limits. I started wising up after I finished school and started working. The whole biz just didn't add up. They tried to make a machine out of me. Get up in the morning and go to work. Come home in the evening — drink beer, beat your wife, and watch TV. Go to bed. That makes me sick. Makes a lot of other people here sick, too.

That I haven't exactly got a positive attitude toward the German Democratic Republic doesn't mean I'd rather go to West Germany. Here or there, it's the same kind of crap. There's always the state — a power wanting to keep power and ready to use all necessary force. I had to get out. I didn't want to get into that. I just wanted to be my other self. □

West Berlin writers Tom Starr, a stringer for Pacific News Service, and Norbert Haase, author of Publicly-Owned Youths, team up with East Berlin photographer Harald Hauswald, who's occasionally in hot water for taking pictures of the wrong things. —Kevin Kelly

The Lutheran Church shelters independent expression in East Germany. Join the congregation if you wanna let it all hang out. In state-run discos, you've got to check your leather jacket at the door.

KOMMI-PUNKS

PUNK ROCK BEHIND THE IRON CURTAIN IN EAST GERMANY

by Tom Starr & Norbert Haase
photography by Harald Hauswald

It's just a short walk to the Wall. You near the checkpoint's tiny walkway and massive concrete barriers. Passport and visa get a preliminary checking.

Your passport disappears. A stone-face border Polizei in a wishy-washy gray/green uniform has shoved it through a slot to another room.

"Did you enjoy your stay here with us?" the guard asks.

Wishing you could just fall asleep in your shoes, you open your bags. This time you don't have to empty the contents of your pockets out onto that table.

Your passport returns for a third, final, close look-in-the-face. As the guard hands your passport back, a curt "danke schön" means you're free to leave.

Reentering the subway at West Berlin's Kochstrasse Station, red-and-white Marlboro posters welcome you to a more familiar world. Just an hour earlier, it had been a night of heavy east-west talk/talk with the German Democratic Republic's subculture at the far end of the (divided) subway line, and on foot through the bars and blustery winter streets of East Berlin.

Our friend Christoph spends every other afternoon tearing tickets in an East Berlin movie theater. For this he gets the East German minimum monthly wage — 250 Marks, less than one hundred bucks.

Martina earns even a bit more than Christoph, working part-time as a kindergarten teacher at a semi-private day-care center in what once was a vegetable shop.

They live in East Berlin's Prenzlauer Berg — the Prenzlau Hill District. Christoph and Martina's place is just one of x-thousand similar flats, built to house Berlin's turn-of-the-century proletarian masses.

It's definitely no frills, with a small coal stove in one room and a gallon-and-a-half calcium-caked electric water heater in the kitchen. The stairwell may have been painted sometime before the First World War. Out the door and down a half-flight of stairs will get you to the toilet, shared with the occupants of two similar nests.

"I know it's not much," commented Christoph, "but neither is the rent — 15 Marks a month!"

Fifteen East German Marks is either $1.80 or $5.40 U.S., depending on where and how you change your money. Some of the area's residents pay nothing at all, squatting in flats somehow forgotten by the Central Housing Authority.

These Prenzlauer Berg tenements have become the property of the very young — and those too old to move out. The East German middle class has left for the pre-fab "Neubauten" — new buildings — in neighboring districts.

Their flat has neither a TV nor a phone. Two bicycles parked in the courtyard are their primary means of transportation. "We don't tend to travel very far," explained Martina. "Most of our friends live nearby."

Our introduction to the virtues of voluntary simplicity in the socialist state was interrupted by a knock. Harry and Heino had arrived.

Heino is not the type of person you'd expect to meet behind the Iron Curtain. He wears a lopsided grin, a

Groovin' on a sunny afternoon, behind the Wall. Young East German men and women prefer a happening to state-socialist planning.

In the GDR, says Heino, "You can't expect too much solidarity when you got big earrings and orange hair."

small golden earring in his pierced left ear, and his short blond hair brushed up. Heino is a twenty-year-old punk.

Heino gets by doing odd jobs, pulling weeds in the cemetery or carrying coal. He's begun investing his spare change in black-market Levis.

Friends say Heino ought to watch his step. He could get classified "asozial" — anti-social — and land in jail. In East Germany, the state guarantees you a job — and not working is a crime.

"Asozial Elemente" may be banished to the provinces, forbidden even to visit Berlin. You can get a "PM-12," a kind of second-class I.D. card restricting travel to the territorial limits of the German Democratic Republic. If convicted of "blatant disrespect for state order," you may go to jail. Many have.

East Germans, it seems, are in love with West German broadcasting. It's no crime to tune in and everybody does. Prenzlauer Berg residents have access to three West German, two East German, American, French, British, and Russian television programs. The latest sounds from London or L.A. are available on stereo FM. The East German stations do their socialist best to keep the pace, but run a poor second.

Just 30-odd miles from the Polish border, the East German subculture looks and listens West, a fact even communist party boss Eric Honnecker can't escape:

"Deep in your heart, Eric, dear
I know that you, too, are a rocker.
You don your leather jacket
Lock the door to the 'Klo'
And tune in West Radio!"
—German rock star Udo Lindenberg

The six of us hopped streetcar #4 as it rolled down Dimitrovstrasse. Harry warned us that our destination might be full of "Spiesser" — average middle-class citizens. We swung off the trolley and pushed into a backstreet dive near Prenzlauer Allee. It was a cacophonous din, a middle-European low-life rerun of the barroom in Star Wars.

Dressed in nondescript zip-front turtlenecks and beige polyester slacks complemented by those ubiquitous Eastern Bloc brown shoes, the native Berliner boys-at-the-bar appeared to be more in need of a shave than another beer. Slicked-back, thin greasy hair seemed to be high fashion here — parted low on the side, then combed up-and-over to cover the bald spots.

The language spoken here was Berliner, a verbal German form too vile to be given recognition as a formal dialect. Pure, clear High German relates to Berliner as Bach relates to breaking wind.

As Heino and Harry pushed tables together, we got a blast of barkeeper Berliner live — informing us in no uncertain terms that this was "Verboten!" This information packed in a number of unpleasant references to our looks and presumed mental capabilities.

"Scheissspiesserladen" — loose-tongued Berliner for 'fuck this joint' — was Heino's retort and that was that. "Raus hier!" No beer for us.

"Rausgeschmissen" — getting thrown out — didn't bother us much. There was beer back at the flat.

"You should have been with us last weekend," admonished Martina. "There was a poetry reading at a friend of ours' place with two young guys who'd been published in the West."

These semi-public readings and meetings on private property have become a staple in the Prenzlauer Berg subculture. Renting a public place for that kind of thing is next to impossible in East Berlin. However, no permit is required for a meeting on private property. The people just crowd on in.

Holding forth on the two punk bands that provided the music after the reading, Heino continued: "There wasn't enough room to stand anywhere. The whole place started moving to the music. At two people per square foot the ceiling started to shake. It was great."

The state, it seems, has lost its monopoly on rock bands. East Germany makes the most of its government-sponsored professional rock bands in the state media. The bands are technically proficient, but lack bite.

Local Prenzlauer Berg garage bands make up for their lack of technical expertise and equipment with a heavy beat and their rough-and-ready "Null Bock" attitude. That's "no goat" — loosely translated "I don't wanna" — as in:

"I don't wanna work
I don't wanna fill the quota
I don't wanna be a middle-class jerk"
— Rosa Extra

State reaction to the Prenzlauer Berg subculture has indeed been contradictory. Free speech and assembly are tolerated in the area to a degree unknown elsewhere in the Eastern Bloc. The city housing authority has come to admit it can't keep track of all available places. Young people often move in when and where they can. They can get the required permit later.

The previous summer at a bombed-out courtyard in the Schliemannstrasse, a grand street party had gone off without a hitch — and with an official permit. Harry claimed that brigade activists from the local light bulb factory were seen "discussing the merits of old Rolling Stones records" with young punks. Local longhairs had danced to the music of three punk bands until well past sundown. According to Harry, it was a community "minus the middle-class jerks!"

We were back up the stairwell to Christoph and Martina's orange door. As she fished an oversized key

"I don't wanna work/I don't wanna fill the quota." — The local rock group Rosa Extra (named after the only brand of tampons in East Germany) helping to create "developed socialist character."

State fear of unchanneled energy outbursts keeps these socialist servants and a cooling water cannon standing by at an afternoon open-air concert.

out of her pocket, Martina explained that the summer street fairs had done much to ease tensions on the hill, with some of the elderly becoming active participants:

"Cleaning up afterwards made for good public relations. We've even taken a liking to some of the older residents. Some of them to us. We try to help out where we can, like carrying coal."

Heino retained a more personal perspective: "You still can't expect too much solidarity around here when you got big earrings and orange hair."

Back in the kitchen, Christoph hauled in a bag of bottled beer that had been cooling on a hook outside the window. He passed around slowly foaming bottles.

We exchanged views.

All feared the recent deployment of new missiles in East and West could cause a crackdown. A tightening of Marxist-Leninist party principles would surely put an end to the free-form Prenzlauer Berg street scene. Personal contacts to Western visitors have recently been "discouraged" and simply forbidden in some cases. A hard-line government shift might result in a number of young people being "asked to leave the country."

Heino gave us a boots-on-the-table, bottle-in-hand private manifesto we could all agree with:

"They (the state bureaucrats) always act like we want an instant revolution. We just wanna realize our own ideas of living together. We want our own theater and our own music. I don't need no new-furniture color-TV boredom. I just want more me. We want more us." ■

Mother and father, sister and brother. Not exactly what the Socialist Unity Party had in mind.

Ylem

KEVIN KELLY: Along every breaking edge of technology there are a few artists wedged in the nicks figuring out creative mis-uses for new-fangled things, immediately enlarging everyone's scope. Our culture has bred a gang of artists hanging around Xerox machines, lasers, geodesics, Polaroid devices, video, and of course computers. Their art makes technology better, which makes them better artists. Some of their latest ideas and exhibit events can be found in this newsletter compiled by and for "artists using science and technology."

•

With help from Polaroid, a company called Photics has developed a holographic coating for windows that would redirect up to 90 percent of incoming sunlight onto fixed locations deep within a building. Different regions of the hologram diffract rays coming in at different angles so that the focus of a rainbowed "spotlight" remains steady regardless of the sun's position in the sky. (Sunlight must strike the window directly however, and it would not work on overcast days.)

Developed under a Department of Energy contract, the hologram's intended purpose is to reduce a building's electrical lighting and air-conditioning requirements. Ylem members, though, might consider its light-directing properties for sculptures or installations where natural light at fixed angles could be useful for purely esthetic reasons.

By Geoffrey Chandler

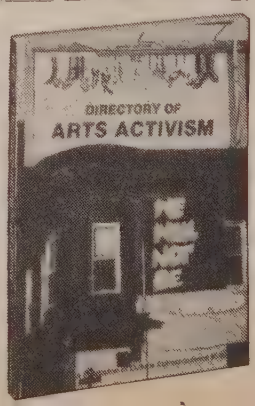
Ylem
Mark Burstein, Editor
$15/year (6 issues)
from:
Ylem
967 Moreno
Palo Alto, CA 94303

We Will Not Be Disappeared!

ROBERT HORVITZ: Feeling isolated and out of step with Falwell/Reagan Republicanism? Then browse through this handsomely designed directory of "progressive" artists, musicians, publishers, theater and film collectives, non-profit organizations, and creative dissenters for an immediate morale boost — not to mention hundreds of addresses and phone numbers for making contact. Focusing primarily on the U.S. (the "international" section is only eight pages), I doubt if most of those profiled realize how extensive their field of potential cohorts is. Some of the groups undoubtedly sound better on paper than they are in real life, and it's hard for me to see why certain individuals were included at all, but the editors weren't trying to enshrine any particular ideology or approach to cultural activism. Vitality and diversity at all levels of accomplishment is what you find instead.

By Mark Klee

We Will Not Be Disappeared!
(Directory of Arts Activism)
Susan R. McCarn, Editor
1984; 160 pp.
$6.50
postpaid from:
Cultural Correspondence
505 West End Avenue
Suite 150
New York, NY 10024



•

Oral History of the American Left, Filmmakers Audio Tape Archive, Bobst Library, New York University, 70 Washington Sq. South, New York, NY 10012, (212) 598-3708

Do you have taped interviews with individuals who helped to build unions during the 1930's and 1940's, fight McCarthyism during the 1950's, struggle for civil rights in the 1960's and women's and gay rights in the 1970's, and disarmament in the 1980's? Such audio tapes may be of permanent value to historians and activists, and a special library of American labor and radicalism wants to have and preserve them.

The Oral History of the American Left at Tamiment Library, New York University, has received funding from the National Endowment for the Humanities to create an archive of interviews made by independent filmmakers.

•

Chicago Mural Group, P.O. Box 25074, Chicago, IL 60625, (312) 871-3089, Contact: John Pitman Weber

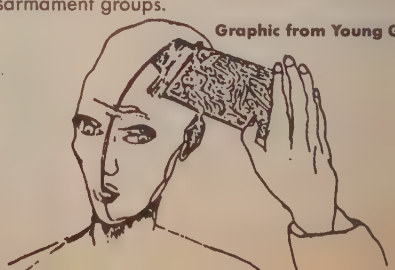
The Chicago Mural Group/Community Mural Project is a group of professional artists dedicated to producing quality art throughout Chicago's diverse communities. Since 1970, the Chicago Mural Group has worked with all age groups, from every economic and ethnic background, to produce murals in schools, public institutions, parks, community centers, and on city walls. Our more than 100 projects have received awards for design excellence and international acclaim for the Group.

•

SOLIDARTE, America 232-A-4, Delegacion Coyoacan, 04040-Mexico D.F., Mexico

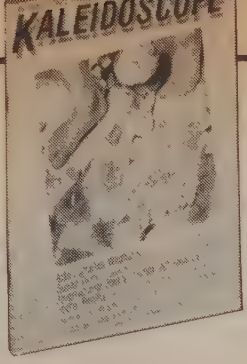
A mail artists' group in Mexico which supports the peace and disarmament groups.

Graphic from Young Gods.



Kaleidoscope

MARK O'BRIEN: ***Kaleidoscope*** *gives us a chance to see disabled people outside of the merely medical context the media generally puts them in. Instead, we see people seeking to explore and understand their lives with creativity. This magazine celebrates the art of disabled writers and artists, people who are able to contribute uniquely to art and literature.* ***Kaleidoscope*** *is the only magazine I know of that recognizes the special achievements (and problems) of artists who struggle with sensory, emotional, or intellectual limits that make them seem somewhat less than human to most people. The quality of their work ranges from embarrassing to exquisite, a sure sign of these artists' essential humanity. The magazine is entertaining, funny, and thought-provoking.*



Kaleidoscope
Carson W. Heiner, Jr., Editor
$8/ year (2 issues)
from:
Kaleidoscope
UCPSH
326 Locust Street
Akron, OH 44302

•

Q: The very idea of a legally blind photographer seems incongruous. What reaction do you get when people realize that you are legally blind?

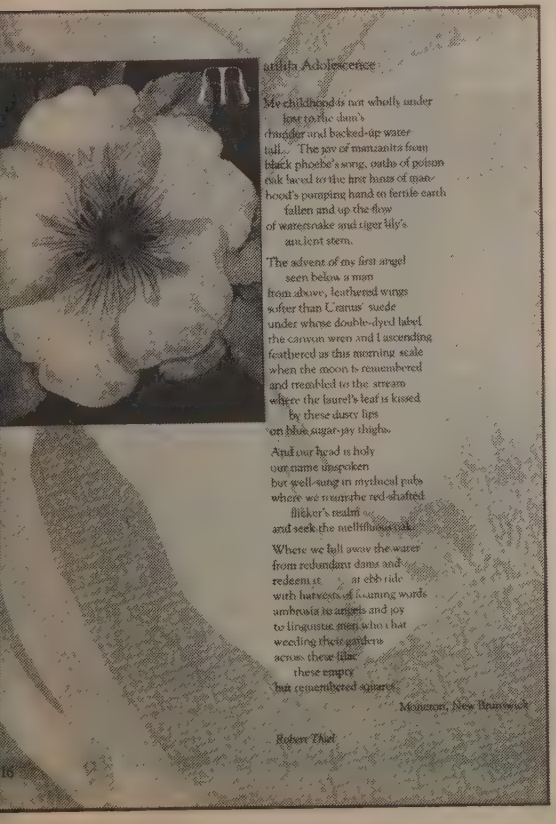
A: Well a lot of the publicity about me starts out with "legally blind photographer," which is something . . . It's helped me to get where I am. I will use anything that helps me forward my career. But I certainly would prefer at some point to simply be called a "photographer."

I guess it's not unusual because if we were to look into the history of artists, we artists like Monet, who painted lily pads out of focus, imitating his eyesight. Later in life he became legally blind. Or Degas, who photographed a lake and then painted from the photograph because he could see better in the photograph than the lake itself. This is true with many legally blind people.

Sailboat by Mrs. Mary E. Liggeons, age 77. She lives with her husband in Philadelphia. She is a legally blind sculptress and poet. She serves on the Board of Directors of the National Exhibit by Blind Artists (N.E.B.A.).

Yellow Silk

ROBERT HORVITZ: Unlike romance novels and jack-off magazines, ***Yellow Silk****'s appeal isn't gender-specific. While most of the contributors are female, a recent survey found that about 55 percent of the readers are male. We need more bridges like this. Their motto is "All persuasions; no brutality," and rarely has the difference between pornographic and erotic been so well shown.*


Adolescence
My childhood is not wholly under
lost to the dam's
and backed-up water
tall... The joy of manzanita from
black phoebe's song, oaths of poison
oak laced to the first hints of man-
hood's pumping hand to fertile earth
fallen and up the flow
of watersnake and tiger lily's
ancient stem.
The advent of my first angel
seen below a man
from above, feathered wings
softer than Ganimede suede
under whose double-dyed label
the canyon wren and I ascending
feathered as this morning scale
when the moon is remembered
and trembled to the stream
where the laurel's leaf is kissed
by these dusty lips
on blue sugar-jay thighs.
And our head is holy
our name unspoken
but well-sung in mythical pubs
where we roam the red-shafted
flicker's realm
and seek the mellifluous oak.
Where we fall away the water
from redundant dams and
redeem it at ebb tide
with harvests of foaming words
ambrosia to angels and joy
to linguistic men who that
weeding their gardens
across these lilac
these empty
but remembered squares.
Moncton, New Brunswick
Robert Thiel

•

Love

My soul was a light blue dress the color of the sky;
I left it on a rock by the sea
and naked I came to you, looking like a woman.
And like a woman I sat at your table
And drank a toast in wine; inhaling the scent of some roses.
You found me beautiful, like something you saw
in a dream,
I forgot everything, I forgot my childhood and my country,
I only knew that your caresses held me captive.
Smiling, you held up a mirror and asked me to look.
I saw that my shoulders were made of dust
and crumbled away,
I saw that my beauty was sick and wished only
to — disappear.
Oh, hold me tight in your arms so close that I need nothing.

—Edith Södergran
(translation by Stina Katchadourian)

•

Cocoon

Granddaddy
wrapped himself up
in a tobacco leaf
and died.
He said
he didn't want to be buried
under a pile of dirt.
He said
the only two things
he cared about
were the crops making it
every year
and my grandmother's
breasts.
After she died
he didn't care about
anything.
He spent three days
looking for
the right
tobacco leaf.

—Marie Henry

Yellow Silk
(Journal of Erotic Arts)
Lily Pond, Editor
$10- $40 /year
(4 issues; pay what you can) from:
Yellow Silk
P. O. Box 6374
Albany, CA 94706

GOOD MOVIES

by Sheila Benson

COTTON CLUB is moviemaking for the sheer joy of it; in Francis Coppola's most audacious work yet, the energy seems to roll right into the theater (two different audiences applauded at bits of the action both times I saw it). With a solid, crisply-written script by novelist William Kennedy, the Jazz Age is seen as a gangster-movie-with-music or a backstage-movie-with-attendant-danger. When you are backstage or on-stage with the fabulous Cotton Club singers and dancers (like Gregory Hines and his brother Maurice), the film is dazzling; in the love story between a Texas Guinan-like Broadway baby (Diane Lane) and cornetist-turned-actor (Richard Gere), it is silken and sensual; in the limos and rented hotel suites of the gangsters it is violent, creepy, and funny by turns. The superb cast includes Lonette McKee, Bob Hoskins, Fred Gwynne, and James Remar as a snarling Dutch Schultz. The brilliant last sequence is almost a musical version of the **Godfather** baptism/massacre, this time mixing theatricality and realism, but throughout the film we feel the tempo of the time, a hot, fast rhythm which is undeniable.

★ ★ ★

Woody Allen's **PURPLE ROSE OF CAIRO** is an homage to what movies mean, or meant, to their audiences. You get the feeling that Allen hopes they still do in this gentle fable about a wispy Depression-times dishwasher (Mia Farrow) with an unemployed brute of a husband and a serious movie habit. Allen takes a page from Buster Keaton when the hero of Farrow's current favorite movie, "The Purple Rose of Cairo," comes off the screen, intrigued by her constant presence in the theater — then doubles it when both the actor *and* his character pop off and into the audience.

Unlike **Zelig**, which had the sense to be short and sweet, this bittersweet romance stays a bit too long, but it is haunting and intriguing at the same time.

PURPLE ROSE OF CAIRO

★ ★ ★

In **MASK** Peter Bogdanovich dares to work against every expectation of the moviegoing world in Anna Hamilton Phelan's adaptation of the true story of a San Fernando Valley biker-mom (Cher) and her highschooler, Rocky, born with craniodiaphyseal dysplasia, a massively disfiguring genetic defect sometimes called "the look of the lion." The story, of course, is of the sweet and bright soul behind this "mask." Under Bogdanovich's sensitive direction, Cher, young newcomer Eric Stoltz, and Laura Dern as the girl he meets at a camp for the blind, carry this story from the predictable into the deeply moving. Life among the bikers may be portrayed as a series of cook-outs and good deeds, but there are truths here about families and about expectations which are universal, and performances which are simply extraordinary.

MASK

★ ★ ★

Never let it be said that we cater to the lazy on this page: you may have to move heaven and earth and raise a ruckus to see Alan Rudolph's **SONGWRITER**, with Willie Nelson and Kris Kristofferson, since its distributing company Tri-Star does not seem interested in a broad (or even a narrow) market for this poker-faced look behind the scenes of the country-Western music biz.

Persevere. It was one of 1984's fastest, funniest, most altogether satisfying comedies; now the trick is to find it in theaters. Willie and Kris set each other off outrageously, Lesley Ann Warren is even more appealing than she was in director Rudolph's **Choose Me**, and here she has a few barn-burning songs as well; Rip Torn is insanely, savagely funny and, with Bud Shrake's true-to-Texas script, the laughs come so fast you may need two viewings to catch them all. ■

WHOLE EARTH Software Catalog VERSION 1.3

ART KLEINER: Through these ongoing updates and reviews, the ***Whole Earth Software Catalog*** *is a living book. This section presents the best, most interesting new software and computer-based tools that we've seen. It also notes changes, new versions, or just new opinions about products we've already reviewed. The fine-toothed detail is necessary because computers and software change so quickly. If you've bought the* ***Whole Earth Software Catalog****, this section will keep it up to date. If you haven't, but are considering buying a computer, this section will clue you in to the best that we have found recently, and why it excites us.*

HARDWARE

DELETED SINCE JUNE 1984:
Sanyo — *IBM PC street prices dropped*
Leading Edge — *embroiled in lawsuits*
Tava — *original died*

RECOMMENDED SINCE JUNE 1984:
Radio Shack Color Computer —*a learner's computer*
More Than You Ever Wanted to Know About Hard Disks for Your IBM PC

RECOMMENDED HERE:
Tandy 1000

Bright new boxes: watch and wait before pouncing

STEWART BRAND: At last there's serious new computers happening. Their paradoxical effect on purchasing: WAIT!

The dominating event is the announced and glimpsed and soon-coming (March-April '85) "Jackintosh" — so called because it is Jack Tramiel's Atari undercut of Apple's Macintosh. With all of Macintosh's graphic richness and with color (but lower resolution) and generous 512K memory, the Atari 520ST has a drastically lower list price: $600, versus the Mac 512K at $2800 list, $2500 street. Arch-competitor of Atari's Tramiel (pronounced "trammel"), Commodore will follow soon after with its Mac-alike, the Amiga, also cheap and graphic and color. A shoot-out.*

If either of these machines can deliver promised goods at promised prices, it changes the position of everything else. The "low end" widens — up a notch in quality, down a notch in cost. The venerable Atari 800XL is being dumped at a bargain $99, street $85 — quite possibly a good place to park your initial computer interest while the battlefield sorts out over the next six months. Many may adopt the "Jackintosh" or Commodore's Amiga as their home computer — people are increasingly impatient with slow or limited computers in the home. That puts serious pressure on the IBM PCjr and Apple IIe and IIc, which are fighting it out in the living room now (with the PCjr winning if it can keep its Christmas prices of $700-$800 with full rig including RGB color monitor).

If the price of Macintoshes comes down in response to the bargain Mac-alikes, as it should, then the "high end" of the market also shifts. Here's why.

For the past year the Macintosh has been more seductive and spectacular than the MS-DOS machines (IBM PC, Compaq, etc.), but less efficient. Exquisite image processors, Macs are therefore slower word and number processors (to them everything is a picture). So MICROSOFT WORD (p. 87) on the Macintosh is slower and more limited than MICROSOFT WORD on MS-DOS computers. With old-style computing you got less bang for more buck on a Macintosh last year. However, if the price comes down sharply, that changes the buck.

Macintosh's bang is changing too. It took a year, but an adequate library of software has finally accumulated, and it's accelerating. One after another, bottlenecks in the hardware are being solved. You can get a second disk drive ($500 list; $435 street), and 512K memory (upgrade from 128K, $700 list), and good on-board hard-disk storage with a Hyperdrive (for 512K Mac, $2200 list; for 128K Mac, $2800 list), and a good trac-ball (Assimilation, $129 list) for mouse-haters. The maddening slowness of disk access can be solved on a 512K Mac with Assimilation's RAM disk ($29 list) — with it MACWRITE, for example, loads in 3 seconds instead of 27 seconds. Other accelerators coming from Apple are an improved Finder to keep up with the hard disk and a "switcher" designed by Andy Hertzfeld that shifts in a blink between applications.

The hardware environment around the Macintosh is also being enriched. Most dramatic is Apple's $7,000 laser printer, which enables flat-out self-publishing. The Thunderscanner is a cheap ($229 list) and dazzling digitizer of images, opening up new graphic vistas. The "Mac Office" linking of computers by wire adds to Mac's corporate credibility. And the formidable old Lisa has been rejiggered (and renamed "Macintosh XL," sigh, $3995 list) to fully accomodate the Mac software library — I wonder if it might become the serious business or writing machine that Mac never quite settles down to.

IBM's MS-DOS machines are refining too, though more evolutionary than revolutionary. The major advance, the IBM PC-AT ($5800 list; $5400 street), with vastly more memory and storage and good design than the PC, is stumbling onto the market with technical and compatibility and supply problems that are taking the usual months to work through. It'll take a year for software to catch up fully with its capabilities, just as when the PC first came out. But it is a rich new computing environment; early owners are reveling as well as bitching.

The question is, at what point does maturing design and the lowering cost of memory and storage give the image-

* To give a more realistic picture of costs we are now quoting "street" as well as manufacturer's list price of recommended items. "Street" is the discount price you can get from mail-order suppliers or highly competitive stores. Phone around.

27 GATE FIVE ROAD SAUSALITO CA 94965

"The newish Tandy 1000, with a $1199 base price and reasonably good IBM PC software compatibility, is a good buy."

Tandy 1000

intensive 32-bit Macintosh and Mac-alikes the edge over 16-bit character-intensive MS-DOS computers for ordinary use? If "Jackintosh" jacks the price of Macintosh down, I'd say later this year.

If you wait a couple months, you have a happy if tangled choice between hot new problematic cheap machines and proven mature machines at distinctly improved prices. Watch and wait before pouncing.

In other hardware news, the Apple IIc flat screen ($599 list) is finally out and just as hard to read as all the other liquid crystal display (LCD) screens. It can do 80 characters wide by 24 lines, "gray on silver," as Kevin Kelly puts it. Games and other graphics are a bit distorted by the wide screen. Recommended only if you have a IIc anyway and desire semi-portability.

Whole Earth hardware critic Richard Dalton has made some changes to his ***Whole Earth Software Catalog*** *list of recommended MS-DOS computers — the lower-cost alternatives to the IBM PC. (His comment on the news from Atari and Commodore: "With all these bright new boxes, 1985 looks like a much more interesting year than '84.")*

RICHARD DALTON: I think we should delete Sanyo, Leading Edge, and Tava as recommended machines. Street prices for even the current IBM PC are low enough that it's not worthwhile to futz with the Sanyo 555's gross incompatibilities and limits.

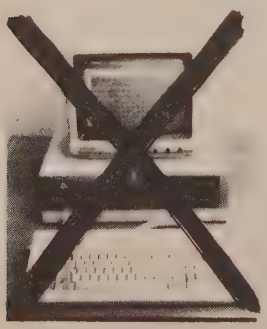
Leading Edge is involved in an ugly (and highly public) suit/countersuit situation with its hardware manufacturer, Mitsubishi of Japan, with claims running in the large megabucks. This casts some grave doubts on the continued viability of the business relationship between the two and it's the Mitsubishi micro (also sold as the slightly different Sperry Personal Computer) that was recommended. I recently sold my L.E. because of this situation and escalating discomfort with their customer services. Leading Edge is now planning to market a less powerful PC-compatible made by Daewoo of Korea. There is no indication of what the specifications or pricing for this computer will be.

Tava went out of business only to be resurrected by its main distributor, Replitech. Coincident with this up-from-the-ashes performance, they switched from a processor board made by Faraday, a well-known manufacturer of IBM-compatible equipment, to "another source." Since we haven't looked at the internals of this new processor board, it's not appropriate to recommend it.

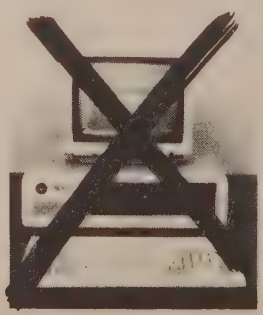
On the brighter side, the newish Tandy 1000, with a $1199 (no monitor; 128K memory; 1 diskette) base price and reasonably good IBM-PC software compatibility, is a good buy, especially backed by the newly-resurgent Radio Shack chain of 6000+ stores. The machine comes equipped with a set of programs called DESKMATE that is surprisingly useful for give-away software. It becomes less of a good buy if you have to have 256K memory, since the second 128K requires an additional $300 board. Configured as the other systems were in this class in the ***Software Catalog****, the Tandy 1000 would have a list price of $2060: good, but not cheap enough to really stir the corpuscles. Nonetheless, it's a valid IBM PC alternative.*

LOUIS JAFFE: Radio Shack stuff is sold at a discount well below Shack store prices by a number of mail-order discounters. Nocona Electronics (P. O. Box 593, Nocona, TX 76255; 817/825-4027), just a few miles from Tandy headquarters in Fort Worth, is one of the leading discounters. They will sell you anything in the Tandy computer catalog for 20 percent off or better. The new $1199 Tandy 1000, for example, is available for well under $1000.

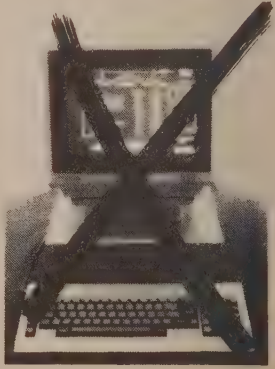
520 ST (list $599), **Atari 800XL** (list $99, street $85): Atari, P. O. Box 3427, Sunnyvale, CA 94088 • **Macintosh 512K** (list $2795, street $2495), **Macintosh external disk drive** (list $495, street $435), **Mac 512K memory expansion kit** (list $700), **LaserWriter** (list $7995), **Macintosh XL** (list $3995), **Apple flat panel display** (list $599): Apple Computer, 20525 Mariani Avenue, Cupertino, CA 95014; 800/538-9696 • **HyperDrive** (list for 512K Mac $2195, for 128K Mac $2795): General Computer Company, 215 First Street, Cambridge, MA 02142; 800/422-0101 • **Mac.Turbo.Touch trac-ball** (list $129), **Mac.Memory.Disk for 512K Mac** (list $29): Assimilation Process, Inc., 485 Alberto Way, Los Gatos, CA 95030; 408/356-6241 • **IBM PC AT** (list for 256K 1.2M floppy 20M hard disk $5795, street $5395): IBM, P. O. Box 1328, Boca Raton, FL 33432; 800/447-4700 • **Thunderscanner** (list $229): Thunderware, 21 Orinda Way, Orinda, CA 94563; 415/254-6581 • Nocona Electronics: P. O. Box 593, Nocona, TX 76355; 817/825-4027.



Leading Edge



Tava



Sanyo

MAGAZINES

DELETED SINCE JUNE 1984:

Whole Earth Software Review — *merged into this magazine*
Softalk — *the users' voice, now defunct*
K-Power — *for the young obsessive, now defunct*

RECOMMENDED SINCE JUNE 1984:
The User's Guide — *ongoing series of tutorials*
Computer Book Review — *good for finding books*
IEEE Spectrum — *not just for engineers*
A+ — *indispensable Apple II mag*

RECOMMENDED HERE:
DTACK Grounded
COMPUTE!'s Gazette

Delicious gossip from old pros . . .

DTACK Grounded

ALAN KALKER: Microcomputer drag racers hang out here. Over a six-pack of Heineken's dark they swap tales, dreams, and news of the latest high speed gear: math chip turbochargers and 68000 hot rods with the DaTa ACKnowledged pin grounded (like welding the throttle full open). Your genial host makes even novices feel welcome with plainspeak explanations and a spicy fricassee of computer industry bloopers and quaint customs. Quite palatable if you have a strong stomach for droll parable and irreverent parody.

The setting is the back of a Santa Ana speed shop. Off in the corner, the mighty ONE MEGAFLOP is beginning to take shape. You can eavesdrop as an old pro (a relic of the days of bamboo slide rules) debates options for his newest creations with a peanut gallery of top university and industry hackers. Hang in there when the talk turns technical. Even if you have to skip parts requiring assembly language, you'll learn lots of fascinating stuff that will shape the future of micros and gain you an appreciation of true engineering elegance.

Elegance is part of the reason the micro racing crowd seems so willing to help the old pro improve his creations. Another is small business square dealing. Low overhead prices hunkered down real close to production cost, cash flow eased by Procrustean policies: ". . . we don't care WHAT inviolable rules your company has, if you don't send us a 10 percent down payment [balance COD], you don't have an order. . . ." No discount games, everybody pays exactly the same price. Even-handed dealing works. And it's refreshingly honest, as is this newsletter.

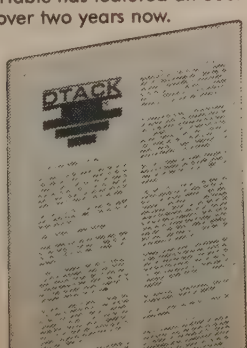
■

If there is any doubt in your mind, one way or the other, about whether you and UNIX are destined to make beautiful music together as soon as hardware prices drop just a bit more, you should make an effort to locate and read the Dec. issue of *Unix Review*. While most of the authors in that issue are under the impression that they are outlining the changes which have to occur in the UNIX world to accommodate the mass market, they are in fact presenting detailed proof that UNIX ain't gonna make it in that market.

■

T.I. is boasting that its briefcase-size portable is the first with an 8087 [math coprocessor chip for faster calculations]. This will prove of great interest to GRID, whose briefcase-size COMPASS portable has featured an 8087 as standard equipment for over two years now.

DTACK Grounded
(The Journal of Simple 68000/32081 Systems)
Felgercarb Naysayer Eloi, Editor
$15/year (10 issues)
from:
DTACK Grounded
1415 E. McFadden, Ste. F
Santa Ana, CA 92705



"Microcomputer drag racers hang out here."

■

Some publications are now talking up as a *very good thing* the inability of typical hackers (vs. well-financed corporations) to write commercial programs for Mack. By keeping out the riff-raff, the reasoning goes, the available software will be of better quality on average (and $250 on average for each program). We wonder if Apple remembers that Dan Bricklin, VISICALC's originator, was once counted among the riff-raff? And that Apple made an *enormous* amount of money off the folks who bought Apples so they could run VISICALC?

Problem-solving for Commodore users . . .

COMPUTE!'s Gazette

JUDITH LUCERO TURCHIN: Though its parent magazine, ***COMPUTE!****, also devotes quite a bit of space to the Commodore 64, the* ***Gazette*** *is more useful, as it addresses strictly Commodore issues. As with any publication dependent on advertising, reviews are rarely sharply critical — but the* ***Gazette*** *does not hesitate to report bugs and suggest alternatives in its in-depth columns and tutorials. The "Feedback" column is particularly helpful, consisting of readers' comments, questions, and surprisingly elegant solutions to problems.*

STEWART BRAND: For now the Commodore 64 continues to dominate the "low end" ($200 and under) of the computer market, though Atari is promising a blazing comeback. A shoot-out between them is good news for the home consumers. By the time one or the other loses, even the purchasers of the loser will have gotten a couple years of value from the aggressively low prices. Cheap mass computers attract cheap software. You need a magazine like ***Compute!'s Gazette*** *to keep up.*

■

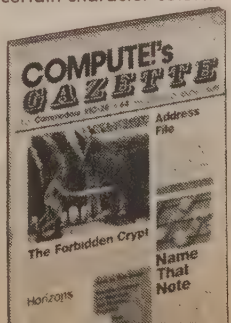
"The problem we have now is that the technology is there on the very high end — expensive synthesizers that you can hook up to your personal computer — but you need a $500 interface and drum machine," says Billings. "On the low end, you have some excellent software.

"The next step is really going to be the person who comes out with a sound source or a peripheral keyboard with electronics to expand voicing capability. The price is going to have to be around $200. Once that happens, it's like adding a printer, it's like adding a disk drive, it's like adding a monitor." Both Passport and another music company, Sequential Circuits, are expected to have relatively inexpensive keyboards available for the Commodore 64 by the time you read this.

■

The Commodore 64 also has a bug in its operating system. Put the cursor at the bottom line of the screen, type more than 80 characters (hold the space bar down until it traverses more than two screen lines), and then try to delete back to the eightieth character. The program in memory runs and the keyboard locks up. If you own a Datassette, you can get out of the lockup by pressing the red SHIFT key and the number 3 at the same time. Then press the tape PLAY button, followed by RUN/STOP. The bug seems to occur only with certain character colors.

COMPUTE!'s Gazette
Robert C. Lock, Editor
$24/year (12 issues)
from:
COMPUTE!
Circulation Department
P. O. Box 961
Farmingdale, NY 11737



DELETED SINCE JUNE 1984:

ALICE — *replaced by THROUGH THE LOOKING GLASS*
VYPER — *a Mindset game, still not released*

RECOMMENDED SINCE JUNE 1984:
BC's QUEST FOR TIRES — *a funny computer game*
QIX — *your only offense is defense*
PITS AND STONES — *pit yourself against Pitman*
HEROISM IN THE MODERN AGE — *lets you be yourself*
THE ARCADE MACHINE — *shoot-'em-up construction kit*
EXECUTIVE SUITE — *playing out company politics*
SUNDOG — *like a space movie*
RUN FOR THE MONEY — *capitalism in outer space*
POGO JOE — *challenge and reassurance*
SUMMER GAMES — *gold medals, no injuries*
THROUGH THE LOOKING GLASS — *post-computer chess*

Software We'd Like to See

STEVEN LEVY: In the instructions to every Adventure game there is invariably a plea for the player to carefully, painstakingly create a map of the universe explored thus far. This is almost always a messy job, since it takes huge sheets of paper and often involves so many twists and turns that the "rooms" keep bumping into each other and running off the page. Soon you are redrawing the map for the fifth or sixth time. It really isn't part of the puzzle-solving; it's a tedious mechanical job, the kind that you shouldn't have to bother with in the electronic age. But maps are important to solving the game and finding out where you've been.

For some games, you can buy ready-made maps. This takes some of the fun out, since you are tempted to follow the map rather than discover openings after trying dead ends. What we need is a computer equivalent of an unfolding map. The map would be pre-drawn, and available to you by a windowing — you could toggle between map and text/picture. But only the rooms you had visited would be visible to you — as you "entered" each room, the program would note that one more piece of the map should be uncovered next time you hit the "See Map" function. This seems a remarkably simple way of doing Adventure games, but I've never heard anyone in the field discussing it, let alone implementing it. Why not?

Stimulating simulation . . .
GATO

Paul Arlton and Ed Dawson. Version 1.1. Copy-protected. $40; street price $27. IBM PC/compatibles (128K, graphics card; RGB monitor recommended); Apple IIe/IIc (128K). Spectrum HoloByte, Inc., 1050 Walnut Suite 325, Boulder, CO 80302; 800/621-8385 x 262.

RICHARD DALTON: The best simulations take you into situations you would never have access to except via a computer. GATO does all that and more, unless you happen, coincidentally, to have been a "GATO" class submarine commander in WWII. Yes, war-toy haters, GATO puts you in the role of a sub captain prowling the Pacific, and your missions involve the rapacious destruction of the Japanese Imperial Fleet, circa 1943.

Your mission assignments, by the way, reach you through Morse code. For the non-Morse crowd, you can get to the seventh of ten levels before the program cuts off your text description of the assignments from "Comsubpac." After that, it's all dits and dahs.

Like the famous FLIGHT SIMULATOR program, GATO puts you in control of all your vehicle's resources: fuel, speed, up, down and a few new twists — torpedoes, oxygen and battery power (while submerged), and periscopes.

The experience is adrenalin-stimulating, but in an abstract way. You get more kicks out of the swelling Captain's Log of sinkings than from the actual denouement of a clunky freighter, even if its twisty evasions end in a colorful explosion.

GATO lets you choose among six displays to find out where you are and how your sub is doing. Shown here is the radar display, with an island to the North/Northeast. We have 23 torpedoes left and are now 41 feet below the surface of the Pacific. (Another screen is shown on the back cover.)

GATO plays extremely well. As you move up the scale of difficulty, the "enemy's" response becomes more sophisticated — able to withstand more than one torpedo before sinking; capable of clever maneuvers they couldn't make before; moving at higher speed requiring a more subtle approach on your part (clue: destroyers are suckers for a head-on approach; difficult any other way).

I heartily endorse GATO for every corporate computer drone. It will wipe out morning malaise if you kick it up on your screen, first shot each A.M. Then trundle on to accounts receivable or whatever, with energy derived from a truly taxing simulation of the unfortunately real world.

Serious science fiction . . .
UNIVERSE

William G.M. Leslie III and Thomas R. Carbone. Version 1.1. Copy-protected. $90-$99; street price $70-$80. Atari; Apple II family; IBM PC family/compatibles (192K, color graphics). Omnitrend Software, Inc., P. O. Box 3, West Simsbury, CT 06092; 203/658-6917.

WILLIAM MICHAEL BROWN: Role-playing fanatics like me have shaken our heads many times over the lack of games that draw inspiration from the tough-minded, "hard science" sci-fi novels of guys like Larry Niven and Isaac Asimov. Now UNIVERSE brings those novels to life.

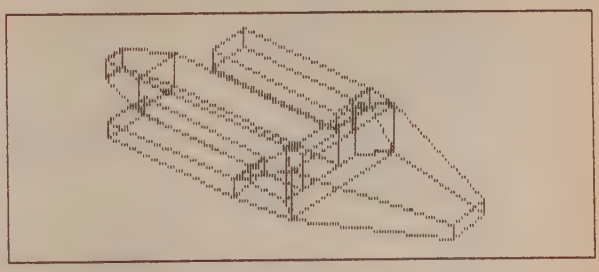
The scenario: you're a resident of a cluster of struggling space colonies called the Local Group. Thousands of light years from Earth, the Local Group has only one link with the mother planet: a huge, alien-made artifact called the Hyperspace Booster, which allows one-way-only shipments of new colonists and technology from Earth. When these vital CARE packages very suddenly and mysteriously stop, the colonists' frontier civilization begins to dissolve into anarchy, piracy, and barbarism. Your job: Find a second Booster, believed to be hidden somewhere in the Local Group, and reestablish contact with Earth.

Strap yourself in for a long quest. You aren't just given a ship to explore with; you've got to take out a loan, buy one, and make a living with it to pay back the loan. You can go into mining (a costly gamble), trading (a good bet, but watch out for the intergalactic customs fees), or even piracy (big profits, but dangerous). There's plenty more — managing space maneuvers, combating pirates and warships, waiting for mysterious radio clues for location of the Booster, and searching some 1600 cubic light years of mostly empty space.

"UNIVERSE is a connoisseur item: a magnificent, challenging game that treats the player with respect. I am in my third month of heavy play, and am far from bored — and far from finished."

All this complexity and detail would make UNIVERSE a mess if its authors hadn't also included features that just about every other game publisher forgets. The manual — clearly printed on durable glossy paper — contains everything you need to know without giving away any of the game's real secrets, is indexed, and comes in a three-ring binder with room for all the maps and notes you'll accumulate. Registered owners with modems get two free hours a month on the UNIVERSE BBS, where the game authors are ready and willing to give help and hints.

UNIVERSE is a connoisseur item: a magnificent, challenging game that treats the player with respect. I am in my third month of heavy play, and am far from bored — and far from finished.



```
DATA ON SCANNED OBJECT IS AS FOLLOWS:
          Probable role: Trader
Sub-C engine gravities:   30
        Shield strength:   8
       Missile capacity:  10
        Laser capability: 10
     ECM effectiveness:    4
          Crew capacity:  20
  Friend/Foe identity: Neutral
```

UNIVERSE lets you scan objects you find in space. This one (right) is a trader, neither friend nor foe.

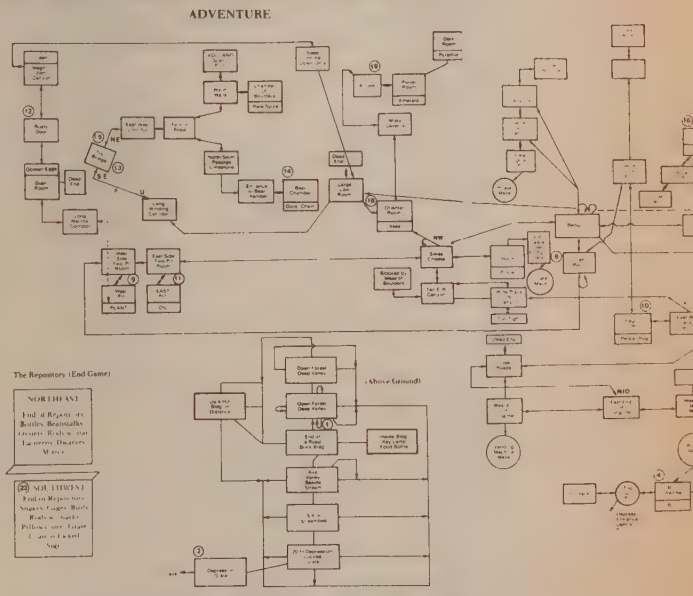
The Book of Adventure Games

STEVEN LEVY: Some people think that there's something unsavory about seeking help in finishing adventure games. I don't. If you are trapped in a windowless room on the Planet Asparagus, without a hint of your means to escape, and weeks of contemplation don't provide any solution, that $40 adventure game becomes less and less charming. You begin plotting vile revenge against its authors. What you need is a hint.

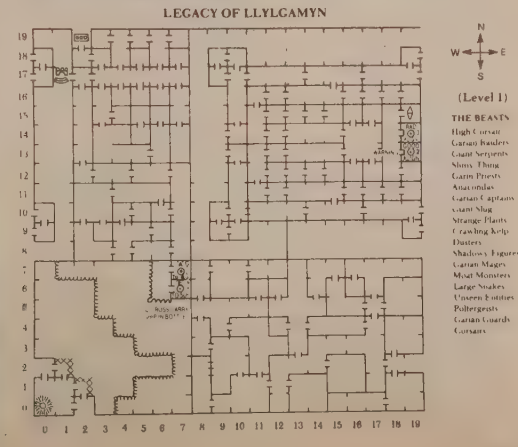
***The Book of Adventure Games** gives hints for over 70 of the most popular programs, and does it cheaper and, generally, more wisely than the other "cheat books" which have preceded it. Best of all are the maps, included for each adventure. Saves a lot of stupid busywork (see "Software We'd Like To See," on previous page). The maps are kept separate from the hard stuff — the solutions to the dilemmas. Only if you are miserably stuck should you go to the back of this book to see the hints, which are not as cryptic as the author implies, but are coldly effective: 'Move Rock. Get Rock (need Wagon). Look Box and Get Key." Best to have someone read you the hint for your particular dilemma, so you won't see the solutions to other puzzles in the game — unfortunately on the same page.*

Not only adventure games here, but maps and hints for role-playing games too. The WIZARDRY and ULTIMA stuff will be worth the price of the book for novices of those quests. And there's a discriminating buyer's guide to help you choose your next Infocom or Sierra or Penguin epic. (Besides solving games, author Kim Schuette rates them.) Schuette dedicates the book to his "computer widow," and I believe that appellation, since only a person chronically addicted to computer adventures could have written this valuable tome.

Unfortunately for Mrs. Schuette, a Volume II is promised.



Above, one corner of the world of ADVENTURE. Below, LEGACY OF LLYLGAMYN's map, the kind that would take hours to compile yourself.



The Book of Adventure Games
Kim Schuette
1984; 350 pp.
$22.45
postpaid from:
Arrays, Inc.
The Book Division
11223 So. Hindry Ave.
Los Angeles, CA 90045

WRITING

DELETED SINCE JUNE 1984:
WORDVISION — *creative but unsupported*
PERFECT WRITER — *too awkward, unimproved*

RECOMMENDED SINCE JUNE 1984:
TEXT POWER 100 — *formatting for the Model 100*
TUTOR+ — *portable typing tutor*
TEXT+ — *make your lap computer a typewriter*
SKIWRITER II — *fast and telecommunicative on the Commodore 64*

RECOMMENDED HERE:
MICROSOFT WORD on the Macintosh
WORDSTAR 2000 PLUS

Huge, wise, sloooow . . .
WORDSTAR 2000 PLUS

Version 1.0. $595 ($350 to update from WORDSTAR); street price $325. IBM PC/XT and compatibles (256K), /AT (320K). Hard disk recommended. MicroPro International Corporation, 33 San Pablo Ave., San Rafael, CA 94903; 800/227-6703 (in CA, 800/443-0100).

STEWART BRAND: This tremendously ambitious word-processing program is MicroPro's attempt to improve on WORDSTAR, the most successful of all software with 1.5 million identified users. As an improvement, it's first rate. Excellent manuals this time. Sensible transition from somewhat arcane "OLDSTAR" commands — familiar enough but also better enough. Happily, it is not copy-protected.

It's a big car with all the options. Luxurious, but expensive; safe, but ponderous. This is not a program worth going half hog on, so we're skipping the six-disk version (WORDSTAR 2000, $495 list, $250 to update from WORDSTAR, $295 street) and mixed-mindedly recommending the seven-disk WORDSTAR 2000 PLUS. On that "Advanced Features" seventh disk is a capable telecommunications feature called TELMERGE, an impressive mailing list handler called MAILLIST, and STARINDEX, which does elaborate indexes and contents.

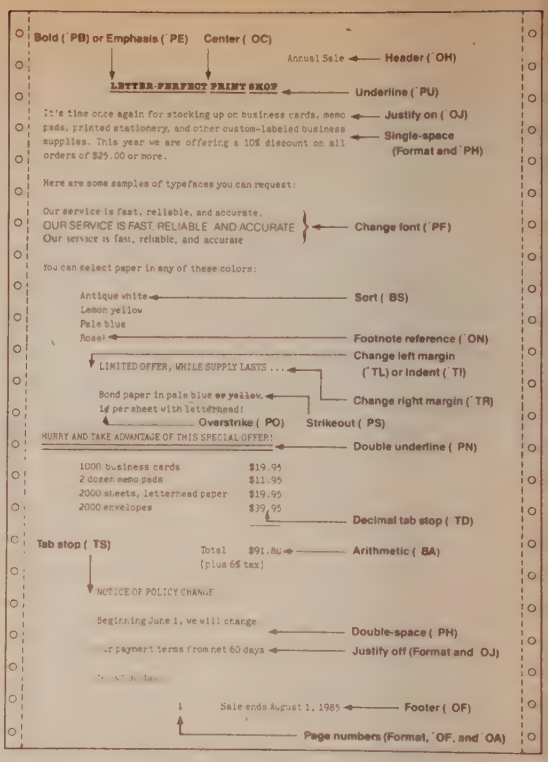
Harken to illuminating argument between an old WORDSTAR lover (Liswood) and an old WORDSTAR hater (Spezzano).

WOODY LISWOOD: If you use floppy disks, you will never be happy with WORDSTAR 2000 PLUS. A monster program, with its integrated features it requires close to two megabytes on a ten-megabyte hard disk just to exist. It seems to have every feature which everyone complained was lacking in WORDSTAR. It operates through a set of menus and sub-menus which are not quite as confusing as the old WORDSTAR. The same friendly cursor control commands but that is about it for continuity.

Significant improvements are: better printer controls; spelling check from within the document for a word, page, paragraph or whole document; undelete last deletion; work with any sub-directory; delete word, sentence, paragraph, or to either line end; mathematics within defined blocks; sorts within defined blocks; proportional printing; onscreen highlighting of special features like boldface and underline (no italic); macros both for text and commands; and continuous reformatting of the screen.

There are definitely some quirks within this first release. The format files which are critical to the entire operation must exist in each sub-directory where you wish to use them. There are no instructions which tell you which files can be deleted after installation is completed. You are left with kilobytes of ".bat" files which you probably will never need again, but who knows? The documentation is massive, three volumes, but difficult to find your way around in. Because of proportional spacing (I presume) you no longer have onscreen justification. The continuous justification doesn't always.

It's slow. Try loading a 20-page file and send the cursor to the end of the file. Go out and have some coffee.


Bold (^PB) or Emphasis (^PE)
Center (^OC)
Annual Sale
Header (^OH)
LETTER-PERFECT PRINT SHOP
Underline (^PU)
It's time once again for stocking up on business cards, memo pads, printed stationery, and other custom-labeled business supplies. This year we are offering a 10% discount on all orders of $25.00 or more.
Justify on (^OJ)
Single-space (Format and ^PH)
Here are some samples of typefaces you can request:
Our service is fast, reliable, and accurate.
OUR SERVICE IS FAST, RELIABLE AND ACCURATE
Our service is fast, reliable, and accurate
Change font (^PF)
You can select paper in any of these colors:
Antique white
Lemon yellow
Pale blue
Rose
Sort (^BS)
Footnote reference (^ON)
Change left margin (^TL) or Indent (^TI)
LIMITED OFFER, WHILE SUPPLY LASTS . . .
Bond paper in pale blue or yellow, 1¢ per sheet with letterhead
Change right margin (^TR)
Overstrike (^PO)
Strikeout (^PS)
HURRY AND TAKE ADVANTAGE OF THIS SPECIAL OFFER!
Double underline (^PN)
1000 business cards $19.95
2 dozen memo pads $11.95
2000 sheets, letterhead paper $19.95
2000 envelopes $39.95
Decimal tab stop (^TD)
Tab stop (^TS)
Total $91.80
(plus 6% tax)
Arithmetic (^BA)
NOTICE OF POLICY CHANGE
Beginning June 1, we will charge
Double-space (^PH)
payment terms from net 60 days
Justify off (Format and ^OJ)
1 Sale ends August 1, 1985
Footer (^OF)
Page numbers (Format, ^OF, and ^OA)

This page exercises every talent of the WORDSTAR 2000 — quite a show which includes different type faces, overstruck letters, and calculations on the fly.

CHARLES SPEZZANO: The only experience I ever had that compares with WORDSTAR 2000 PLUS is the first week I spent with a new Saab Turbo in 1981. Looked great, had every option I ever wanted. The controls were easy to master, the gearbox was like a knife through soft butter. Unfortunately, the Turbo's wastegate was broken, so I was driving a low-compression, turboless engine while imagining I was in the seat of a four-wheel jet and wondering all week why kids on tricycles were moving faster than I was. Forget about jumping around a 20-page document; just entering some boldfaced text is a lesson in patience. What a colossal disappointment. After FRAMEWORK's zippy and self-evident word processor, I'd never take the time to mess with an overweight slowpoke like WORDSTAR 2000.

WOODY LISWOOD: I really have mixed feelings. Because of my wife's experience getting out four letters easily with no previous word-processing experience and nothing but onscreen help, I want to recommend it for everyone. However, it is slow enough to drive me crazy. But it does everything I want. But it is slow. But it does proportional printing (really nice looking, by the way). But it is slow and takes up too too too too too too too too much room on the disk. I am going to use it for a few weeks, then make up my mind.

CHARLES SPEZZANO: I looked in vain for a way to delete backwards word by word. How could that have slipped by the designers? It is one of the most common editing maneuvers. And why does MicroPro dictate a right margin of 65 or less when preparing messages for electronic mail services? MCI and the others work best when fed close to 80 characters per line.

On the positive side, it is easy to grasp the command structure and move around the menus, much easier than getting started with MICROSOFT WORD. The problem with that logic, however, is that WORDSTAR 2000 is clearly a heavyweight word processor that requires some

study time if you intend to use all the features you would bother paying that kind of money for in the first place. I would rather struggle with MICROSOFT WORD or live with WORDPERFECT's semiautomatic reformatting rather than doom myself to the endless frustration of waiting for GODOT 2000.

STEWART BRAND: WORDSTAR 2000 supports 108 printers! It has one of the sharpest of spellers in CORRECTSTAR (included) — 74,000 words, the ability to suggest correct words that sound like what you've misspelled, and the enormous convenience of doing the correcting while you're writing. But its slowness is an aggravation that accumulates. It looks like Liswood and Spezzano have agreed for the first time in two years: we recommend WORDSTAR 2000 PLUS only if features outweigh speed for you and you're working with a hard disk.

UPDATE

WORDMOREPERFECT and IMPERFECT WRITER

STEWART BRAND: After a tranquil winter there's finally significant word processing news. 1) WORDSTAR 2000, above — less than hoped, better than feared. 2) MICROSOFT WORD, at last, for the Macintosh ($195 list; $110 street). "At last" because the Mac has been languishing for a year without a serious word processor (MACWRITE is a great announcement processor). First looks reveal that WORD does indeed make good use of disk so it can handle long documents, does indeed support letter-quality printers, does indeed offer four windows for separate documents, duplicates MACWRITE's spectacular graphic ability, and is compatible with a speller (HAYDEN — $80 list; $52 street). Thanks to its several-month delay for reprogramming it's now medium-fast for a Macintosh. I.e., slow; see discussion in "Hardware," p. 81, for hope on the horizon. ►

"After a tranquil winter, there's significant word processing news."

One of the signs of diligent software is frequent and distinctly improved new versions. WORDPERFECT's new Version 4.0 ($495 list; $235 street) is a nice example. Its included speller has dramatically increased from 35,000 to 100,000 words, including phonetic lookup and automatic insertion and word count[1]; it also has a better manual, better footnoting and indexing, and other refinements.

An opposite example is the new and not improved PERFECT WRITER 2.0 ($199 list; $139 street). Its new publisher, new streamlining, pop-down menus, and swell online thesaurus (helps you pick words while you're writing them) don't make up for its tedious menu-sequencing of commands, with no shortcuts. You can't print from memory, you can barely use the IBM function keys, and it doesn't automatically reformat a revised paragraph. Just another teeth-gnasher.

1. I've been begging for a decent word count utility in word processing programs for a year now. This one is kind of a by-product. Joe Kane told me something I never knew — "Word count in publishing is a formality: character count divided by six. Nobody actually counts words." Well well. Since my MICROSOFT WORD, like some other word processors, tells me how many characters are in the file every time I save, I'm only x/6 away from a formal word count any time I want. According to that, there's 1,860 formal words in the body text of this Writing Section. Care to check?

MICROSOFT WORD (Macintosh, $195; street price $110): Microsoft Corporation, 10700 Northup Way, Box 97200, Bellevue, WA 98009; 206/828-8080 • **HAYDEN SPELLER** ($80; street price $52): Hayden Software, 600 Suffolk St., Lowell, MA 01854; 800/343-1218 (in MA, 617/937-0200) • **WORDPERFECT** ($495; street price $235): Satellite Software International, 323 North State Street, Orem, UT 84057; 800/321-4566 (in UT, 801/227-4070) • **PERFECT WRITER** ($199; street price $139): Thorn EMI Computer Software, 18881 Langley, Irvine, CA 92714; 714/261-6600.

Improve Your Writing with Word Processing

CHARLES SPEZZANO: Many of us approach word processing as spectators. The programmers have set the editing procedures. We press the buttons and watch the magic. Most word processors, however, can be customized into more of a glove fit with each writer's style through the use of keyboard macros — sets of frequently used keystrokes, entered once and executed when needed by pressing one or two keys. The Nobles take this little time-saving trick, popularized by such keyboard changing programs as PROKEY and SMARTKEY, and extend it into an art form. They supply detailed instructions for creating macros to move the cursor by sentences; mark and highlight a sentence as a block; semiautomatically reformat a paragraph or the whole file; break a paragraph into sentences for easier analysis and revision and then rebuild the paragraph; transpose two characters or words or sentences; globally remove carriage returns (a great help for telecommunicating files); and more.

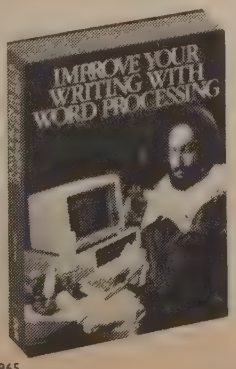
In addition to specific instructions for WORDSTAR-PROKEY users, they also devote a chapter to implementing similar systems of macros with PEACHTEXT 5000, SUPER-TEXT, MULTIMATE, SPELLBINDER, SUPERWRITER, ELECTRIC PENCIL, WORDPERFECT, and XYWRITE II+. Sufficiently motivated users of other programs could also adapt the procedures to their own word processor since the macros are as much conceptual as technical creatures and can, therefore, move easily from realm to realm.

Like Pirsig with his Zen motorcycle, I am convinced that each word processor has a personality which is not fixed by its creator, but rather can be defined as "the intuitive sum total" of everything the user knows about it, feels about it, and can do with it. This book lets you redefine a word processor's personality and may, therefore, save many an existing marriage between user and program that is threatened by all the fancy newer packages. In fact, the book starts a genre of its own — the guides to creative (rather than just efficient) word processing. Most writers who have sunk two to five grand in a word-processing system will milk their investment more thoroughly with the Nobles' advice at hand.

•

Don't worry about how you write. Don't correct misspellings or misused punctuation, and don't try to phrase your ideas nicely. When you use word processing to brainstorm all by yourself before a screen, you are "among friends." For increased readability and use of block moves later on, you may want to separate your ideas with blank lines.

Improve Your Writing with Word Processing
David F. Noble
and Virginia Noble
1984; 430 pp.
$14.45
postpaid from:
Que Corporation
7999 Knue Road, Ste. 202
Indianapolis, IN 46250
or Computer Literacy



ANALYZING

DELETED SINCE JUNE 1984:

WORKSLATE — *defunct spreadsheet lap portable*

RECOMMENDED SINCE JUNE 1984:

LUCID — *powerful Model 100 spreadsheet*
TELESTOCK — *lap computer stock price checker*
TENKY+ — *portable computer calculators*
SOLOMON — *for anticipating the group mind*

RECOMMENDED HERE:

SUPERCALC 3

"I would recommend SUPERCALC 3 over LOTUS 1-2-3."

WOODY LISWOOD: 1985 starts with a new philosophy. I will no longer recommend software that is protected in such a way that you must use a floppy disk to start up on a hard disk system. Here is why. Serious analyzing program usage virtually requires a hard disk for speed and adequate data storage. I have a Compaq with a 10-megabyte hard drive. I use programs like LOTUS 1-2-3, and CHARTSTAR and GRAPHWRITER. Each of these programs is copyable, but each requires that a key disk be in the "A" drive for the program to boot and run successfully. Among other things, I take the computer with me to work on-site with clients. That means I must carry floppy disks to run with. It gets in the way and defeats much of the advantage I find in using a hard disk.

Does that mean that I would not recommend LOTUS 1-2-3? No. There are programs available which allow you to transfer LOTUS and other protected software to the hard disk. If all you want to do is run LOTUS, almost any PC based bulletin board will have the one-byte fix that you can do through DEBUG which will liberate LOTUS.

Newly girded for the spreadsheet wars . . . SUPERCALC 3

Version 2.0. $395; street price $210. IBM PC/XT (96K). Sorcim/IUS Microsoftware, 2195 Fortune Dr., San Jose, CA 95131; 408/942-1727.

WOODY LISWOOD: SUPERCALC 3 Release 2.0 is now available. It is unprotected. It has quite good graphics, supports the 8087 math chip, goes to 9,999 rows, has reasonably competent data management, and now supports the end and arrow keys. It also no longer stores space for unused cells. That means the rectangle which we spreadsheet users are always worrying about to get maximum usage from our large models is no longer important. We can design to suit our particular personalities and not let the confines of the spreadsheet constrain our thinking.

If you need a very good spreadsheet and don't want the clutter and nonsense of SYMPHONY, this version of SUPERCALC is worth trying. I personally have switched my spreadsheet work from LOTUS 1-2-3 to SUPERCALC 3 because of the extra rows and the way in which it handles memory. It also reads VISICALC and LOTUS worksheets for you and translates them into ".cal" files to help you make the decision to switch.

SUPERCALC 3 Release 2.0 also comes with two programs which will make your life much easier. SIDEWAYS is included so that you can print your spreadsheet sideways down a multitude of sheets of paper. Since SIDEWAYS comes configured for SUPERCALC 3 you don't have to fool around trying to find the correct variables to use when printing your file to disk. The other program is called SDI. SUPER DATA INTERCHANGE will take files from almost any other database and convert them to SUPERCALC 3 files or reverse the process. If you use different databases you will appreciate the ability to swap.

All things considered, if you had no spreadsheet for your IBM PC or work-alike, I would recommend SUPERCALC 3 over LOTUS 1-2-3.

UPDATE

Humongous mainframe program hogs whole hard disk . . .

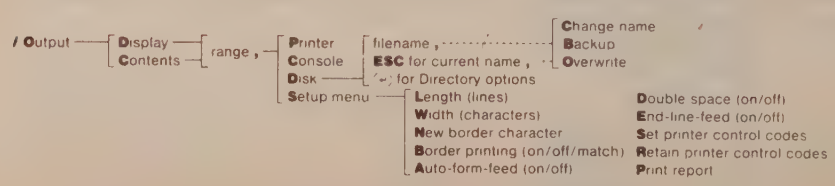
WOODY LISWOOD: Statistics programs are still up in the air. I received SPSS. $795 is the list price. Comes on nine disks. All must be loaded and available before you can run the program. They recommend that you dedicate a PC/XT to do nothing but run the program. From my first brush with it, I must say that it looks quite good. However, it reminds me of my mainframe college days. It does not have the elan and user interface to which I have grown accustomed over the past few years with Apple and IBM programs.

SPSS is not for those uninitiated to the statistics priesthood. It assumes that you know what you are doing and why. I found the documentation complete and helpful, but then I work with statistics from time to time. For instance, in the section on multiple regression there are numerous subheadings such as "Coaxing a Nonlinear Relationship to Linearity" or "Coping with Skewness" or "Stabilizing the Variance." If you feel comfortable with those terms then the documentation is wonderful and actually fun to read. It is full of sample problems and suggests different approaches to take when working with your data.

SPSS is, today, clearly a workable clone of the mainframe version, though I would like to see a curve-fitting routine. Would I recommend it? If you need a powerful statistics program, then this is it. It supports KERMIT protocol to talk to the mainframe, works well, and has the features you probably grew used to when working with the large computers. On the other hand, it is protected. You must have the key disk in "A" when you start the program. Damn, Damn, Damn! Since they recommend a dedicated computer for the program, that is probably much less a hassle, but I cannot bring myself to recommend any protected program, period.

*Speaking of protection, ABSTAT has also fallen into that mold. Their latest release is faster than before, but now also requires a key disk to run. I hope that when DAISY (**WESC** p. 74) shows up in the IBM world there is no protection so I can finally recommend something without reservation.*

SUPERCALC 3's manual has an excellent tutorial, along with concise descriptions of the "slash commands." Shown here are the options available under /O, for Output.

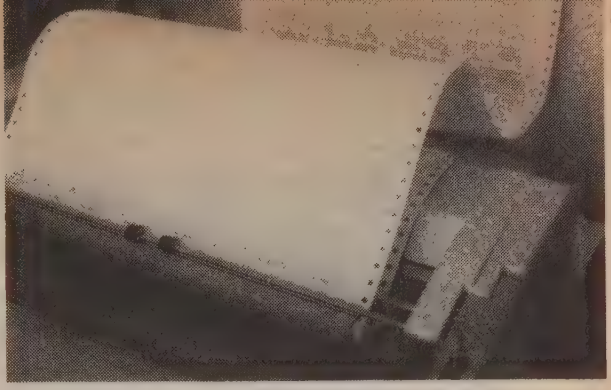


ORGANIZING

DELETED SINCE JUNE 1984:
SEQUITUR — *outdated*
RBASE:4000 — *replaced by DBASE III and SMART DATA MANAGER*

RECOMMENDED SINCE JUNE 1984:
HABADEX — *an address/phone/date jukebox*
FILEVISION — *organize your diagrams*
DBASE III — *replaces DBASE II on IBM PC*
MAXTHINK — *better than THINKTANK on IBM PC*
SUPERBASE (Commodore 64 version) — *Overkill, but it works*
SMART DATA MANAGER — *Our choice for software library info*

RECOMMENDED HERE:
F.C.M.
THE MANAGER
THE CONSULTANT
DATABASE MANAGER with REPORT GENERATOR
DATABASE 64
INFOSCOPE
PLEASE
CONCENTRIC INFORMATION PROCESSOR



A file-managing program excels at keeping complex lists of names orderly. Hooked up to a printer, it will hammer out mailing labels by the thousands, in zip-code order.

List Makers and Masters

KEVIN KELLY: When I got a computer several years ago I had a very specific use in mind: I wanted to run a small mail-order business with it. Its main use would be to track thousands of names and print out mailing labels; if it could do typesetting and accounting as well, then all the better.

A complete software virgin, I called up a discount place and ordered the best file manager they had for the Apple, a $64 package called F.C.M. (used to be named FIRST CLASS MAIL), the same program evaluated here for the Commodore.

My first program! It did the job. It also could do a few things that were helpful that I didn't even know I wanted done when I first started, like changing the size of the label, since sometimes I used printers of different widths. And I immediately recognized that it didn't do many things I certainly expected, like upper and lower case letters on labels. But we eventually managed 10,000 names, far beyond what the software designers had in mind, by clumsily switching disks and swapping files, a constant reminder of the limitations of F.C.M. — graphically demonstrated in the chart by John Seward that follows.

F.C.M. is a mildly mediocre tool that made a fairly hopeless job possible, a little fun, and, most importantly, profitable for a team of two. It was so far superior to 10,000 index cards that most of the time I didn't care that it was mediocre. The best of the file programs reviewed here, like INFOSCOPE, make managing a complicated list in any other way quite irresponsible.

File Managers for the Commodore 64

JOHN SEWARD: This article is supposed to be about file management systems for the Commodore 64, though not one of the five products to be discussed calls itself this. With one exception, they all prefer to be known as database management systems. Escalating hype has apparently eliminated the former term from software marketing vocabulary. All five systems are, however, actually file management systems, in accord with the notion that a database system accesses several or many different interrelated files, while a file management system works with only one file at a time.

The five systems I'm going to talk about are F.C.M. from Continental Software (F.C.M. stands for Filing, Cataloging, and Mailing labels — the most humbly, and accurately, named program), THE CONSULTANT (previously titled DELPHI'S ORACLE), from Batteries Included, THE MANAGER from Commodore, DATA BASE 64 from Entech, and DATABASE MANAGER from Mirage Concepts. The same general ground is covered by all of these programs, but they vary widely in particulars.

Assuming price is not a consideration, THE MANAGER and DATABASE MANAGER come out on top. But it really depends on what you plan to do with a file manager. If you are going to be printing a lot of mailing labels, for example, and you want ease and flexibility in how you format those labels, then your best bet may actually be F.C.M., if you can live with its other considerable limitations.

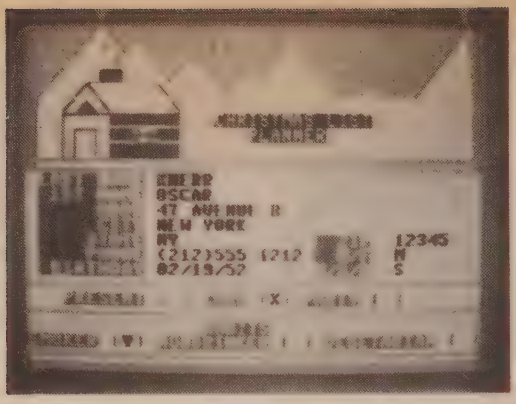
F.C.M from Continental Software is written in Commodore 64 interpreted BASIC. Hit CONTROL BREAK and the program will interrupt and let you look at it, even make changes if you like. It feels like a home-brew effort, done to keep track of someone's record collection, and then dressed up for the mass market. F.C.M. only allows 24 characters in a field, not enough for many individual or company names, addresses, or even names of record albums. There are only 10 fields allowed in a record, and a record cannot contain more than 132 characters of information. These are severe limitations.

In many ways the most solid, competent performer of the group is THE CONSULTANT. There are virtually no limits on the sizes of fields, records, or files. It gives you a lot of flexibility and power for selecting, sorting, and printing reports. It does have a couple of annoying quirks. The only type of field that accepts both letters and numbers is a key field, but key fields require an index to be maintained for them. This means that if you want to store alphanumeric information, you have to declare everything a key field, which takes up space and time. Another problem is in label printing. A maximum of two fields is allowed on a line of a label, which means that you can't put city, state, and zip code on the same line of a mailing label — an absurd restriction.

THE MANAGER is another solid performer which also has a few strange shortcomings, the two main ones being that it doesn't let you print mailing labels at all and it requires you to use all capital letters, no lower case allowed. Also slightly troubling is the fact that THE MANAGER only allows a maximum of 40 characters per field, ample for most names and addresses but not for notes. If you don't care about mailing labels or lower case letters, this is an otherwise adequately featured system.

En-Tech's DATA BASE 64 is another interpreted BASIC, home-brew, fairly primitive program, but with F.C.M. it shares a label-printing capability superior to any of the other programs. For some reason the printing of mailing labels is considered to be relatively unimportant by the publishers of most of these programs, although I would bet that mailing lists are the single most common application of file management systems.

DATABASE MANAGER is probably the best all-around system. It has plenty of power and flexibility on the front



You get four ready-to-use templates with THE MANAGER: the pictured Christmas list planner, a checkbook balancer, a task manager, and an investment tracking tool.

end for entering, selecting, and sorting data, and very good label printing and features.

I would have to say that none of these programs is a real knockout, but any of them might be the right combination for some particular application. If I wanted to put the FEATURES Chart in a file using one of these programs, I would have to eliminate F.C.M. and DATA BASE 64 right away. They couldn't handle the number of different fields, one for each characteristic. I would also have to eliminate THE CONSULTANT and THE MANAGER. The only program that will let me print all those fancy columns is probably DATABASE MANAGER. On the other hand, if you absolutely have to sort something in reverse order, you'll have to buy THE MANAGER; it's the only one with a descending sort option.

In short, there is no clear-cut winner in the battle of the file managers. You just have to count your money, figure out which features you really need, and make a choice.

File Managers for the PC

CHARLES SPEZZANO: Many people buy personal computers primarily for word processing and spreadsheeting. Then they decide to computerize a list of clients or customers. Integrated packages have database modules, but you are also paying for a word processor or spreadsheet that you know is not going to replace the one you are already using and liking. What about DBASE III or those other programs that can juggle anywhere from two to forty files without dropping anything? Well, would you spend all day learning to drive a truck with ten forward gears just to carry a package to the post office? Not likely.

With any of the file managers listed here you can learn the program and enter the records for a few hundred clients, all during the first day of use. They all fit comfortably into a 256K, two-floppy drive PC, and they are cheap.

My current favorite is INFOSCOPE. To begin with, INFOSCOPE's fields can be up to 255 characters in length instead of the usual 80. That lets me include a sentence or two about a patient in each of the records from my psychology practice, rather than try to think in terms of keywords. Secondly, the manual and the program speak plain English. If I want to sort my records by last name and date of service, I enter the command SORT LASTNAME, DATE. Tricky, isn't it? Finally, INFOSCOPE is colorful. You can select different colors for various sections of the screen. You can even name your files by color.

Despite this simplicity and the promise of a good time, INFOSCOPE does everything I'd want a database manager to do with the kind of personal and professional lists I keep on my PC. It can deal with just about any type of

① **FEATURES**

FEATURES	F.C.M.	THE CONSULTANT	THE MANAGER	DATA BASE 64	DATABASE MANAGER
CAPACITY					
Maximum characters in a field	24	6656	40	60	250
Maximum fields in a record	10	99	250	20	200
Maximum record length	132	6656	1500	250	2000
Maximum number of screens per record	1	9	20	1	3
Number of field data types	1	3	2	1	2
How many files can you put on a disk?	1	*	*	*	*
Is lower case supported?	N	Y	N	Y	Y
Can you set the screen colors?	N	N	Y	Y	Y
SELECTING					
Can you select on any field?	Y	**	Y	Y	Y
Can you do wild-card matching?	N	Y	Y	N	Y
Can you select on more than one field at a time?	Y	N	Y	N	Y
SORTING					
Can you sort on any field?	Y	Y	Y	Y	Y
Ascending and/or Descending?	A	A	AD	A	A
Can you sort on more than one field at a time?	Y	Y	Y	Y	Y

* Unlimited. ** From first page only.

PRINTING LABELS	F.C.M.	THE CONSULTANT	THE MANAGER	DATA BASE 64	DATABASE MANAGER
Can you set the label size?	Y	Y	N	N	Y
Can you choose the number of labels to print across the page?	Y	Y	N	N	N
Can you insert messages in the label?	Y	N	N	Y	Y
Can you print any fields on any line of the label?	Y	N	N	Y	Y
Can blank lines be automatically eliminated from the labels?	N	N	N	N	N
Can you insert punctuation in the label?	Y	N	N	Y	Y
PRINTING REPORTS					
Column headings?	N	Y	Y	N	Y
Totals?	N	Y	Y	N	Y
Break points?	N	Y	Y	N	Y
Page breaks?	N	Y	Y	N	Y
Is there a disk backup utility?	Y	Y	Y	N	Y
Can you do mathematical calculations on a field?	N	Y	Y	N	Y
What word processors can you interface with?	None	1.	2.	3.	None
Price	$50 ☆	$100	$50	$60	100

② **RATING** (1 is poor; 4 is excellent)

Ease of use	2	2	3	2	3
Manual	3	3	3	3	3
Power	1	4	4	1	4
Error-handling	2	3	3	2	3
TOTALS:	8	12	13	8	13

☆ Commodore 64 version.

You can't tell the players without a program, and you can't tell the programs without a comparison chart, so here are not one, but two comparison charts to help manage all the data about all the data managers. The first chart is a comparison of objective facts about the features of each of the five filing systems. Which criteria to include in this comparison is, of course, based entirely on my own personal prejudices. The second chart sets forth several subjective comparisons and, as such, likewise consists of nothing but my personal prejudices.

1. PAPERCLIP
2. EASYSCRIPT
3. WORDPRO 3: PAPERCLIP

"If you mistype a command, INFOSCOPE's built-in spelling checker attempts to make sense of what you typed."

information I throw at it, including text, money, dates, time, stock prices, counters (like part numbers and check numbers) that are not normally totaled or averaged, and integers that may be calculated, as well as allow yes/no fields.

INFOSCOPE is also versatile. Sorts may be done on any field or combination of fields, in ascending or descending order, and you can reverse the sorting order at any time with the REVERSE command. When you are through, the UNSORT command returns the records to their original order. With files containing a few hundred records, sorting time is a second, maybe less. Record selection, for viewing and editing or for a printed report, can involve multiple field names, relational keywords, and values connected by AND or OR. And if you mistype a command, INFOSCOPE's built-in spelling checker attempts to make sense of what you typed.

In all likelihood, if you are in the market for a file manager and this recommendation has whetted your appetite for INFOSCOPE, but you are wondering about some specific feature I haven't mentioned, you'll probably find that the program has it and does it the way you'd like it done. If you don't know anything about database managers, but you think you need one, give this baby a close look, except if you will need to create calculated fields or if you are worried about erroneous data entry.

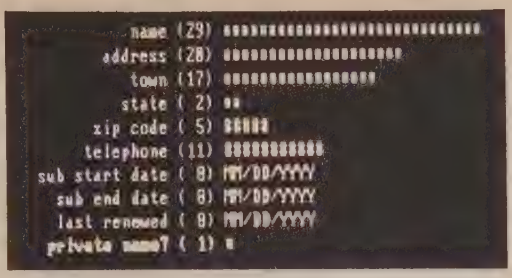
If you need that kind of protection, then try PLEASE instead of INFOSCOPE. It's not quite as easy to learn (some reading of the manual is required, even for muddling through the basics) and not nearly as much fun to use, but it offers a complete security system for file access as well as data entry, and also allows up to 999 characters in its text fields, so that I could write a few paragraphs, instead of sentences, about a book or journal article I just read. Later, I could retrieve any records that contained the word neurosis or psychotherapy in the 'abstract' field.

PLEASE also gets along with just about every other business program with which you might want to exchange data. Files are stored in ASCII format by default, but PLEASE can read and write DIF files for LOTUS 1-2-3 exchanges, and it comes complete with instructions for doing that or exchanging data with Ashton Tate's DBASE and FRIDAY programs. VISICALC, WORDSTAR, and BASIC files are also on PLEASE's exchange list. If the data exchange is being made by telephone, PLEASE will even look up and dial the number for you if it's contained on a record in one of your files and if you have a Hayes Smartmodem.

The problem with PLEASE is probably the other side of its tight-fisted security coin: making changes is tough. Adding or deleting a field or lengthening a field requires you to copy the database structure, modify the empty copy, and merge the data from the original file into the new one. Even changing a mistaken entry in the current record is a pain in the neck with PLEASE. You have to erase backwards through good fields to get to the mistake, or keep it in mind till you complete the record and then go directly to the error.

One deficit of INFOSCOPE that PLEASE only partially remedies is the handling of calculations. PLEASE does that kind of work only with its report generator, so you cannot immediately see onscreen the effect in one field of a changed number in another field from which it is derived.

Fortunately, many of the impairments suffered by INFOSCOPE and PLEASE are corrected by a program called C.I.P. (CONCENTRIC INFORMATION PROCESSOR). It's not better overall than INFOSCOPE, but it does a few things INFOSCOPE doesn't and that may make the difference for a particular application. It does allow fields calculated from other fields, and the results appear onscreen. A numeric formula can be up to three lines and can include parentheses and percentages.



To start a mailing list with C.I.P., you create an entry form that suits your needs. Lines designated as dates will only accept proper dates, reducing erroneous entries. Likewise, zip codes must have five digits, or C.I.P. won't let you continue.

C.I.P. also provides some data entry protection, although not as much as PLEASE, in the form of unique fields and required entries, and it also allows you to change your mind frequently about the name or size of a field, while letting you easily eliminate fields you no longer need or insert new fields for maintaining additional information. A field not originally intended for sorting or searching can be made a key field and then be used for rapid sorting and selecting. However, C.I.P. offers a much more limited range of selection and sorting options for tailoring reports than INFOSCOPE does.

All three of these new programs are file managers that handle one set of similarly formatted records at a time. For people who might need to update multiple files simultaneously or make a change in the value of a number in one file, such as an inventory file, based on an entry made into a record in another file, such as an invoice file, then programs like SIX from ASAP or DATAEASE from Software Solutions will have to be considered. But comparing those to INFOSCOPE, PLEASE, or C.I.P. is mixing apples and oranges, so we'll update the oranges in another issue.

FOR THE COMMODORE 64

F.C.M. Version 1.0. Not copy-protected. ($50; street $35): Arrays, Inc./Continental Software, 11223 South Hindry Ave., Los Angeles, CA 90045; 213/410-3977 • **THE MANAGER** Copy-protected. ($50; street $35): Commodore Business Machines, 1200 Wilson Dr., West Chester, PA 19380; 215/431-9100 • **DATA BASE 64** Version 3.0. Not copy-protected. ($60; street $45): Entech Software, 8911 Lankershim Blvd., Sun Valley, CA 91352; 818/768-6646 • **THE CONSULTANT** Copy-protected. ($100; street $65): Batteries Included, 17875 Skypark No., Suite P, Irvine, CA 92714; 714/250-8723 • **DATABASE MANAGER** with **REPORT GENERATOR** Copy-protected. ($100; street $68): Mirage Concepts, 4055 West Shaw, #108, Fresno, CA 93711; 800/641-1441 (in CA, 800/641-1442)

FOR THE IBM PC

PLEASE Not copy-protected. ($350; street $225): Hayes Microcomputer Products, Inc., 5923 Peachtree Industrial Blvd., Norcross, GA 30092; 404/449-8791 • **CONCENTRIC INFORMATION PROCESSOR** Version 1-C. Not copy-protected.($295; street $240): Concentric Data Systems, Inc., 18 Lyman St., Westboro, MA 01581; 617/366-1122 • **INFOSCOPE** Version 1.0. Copy-protected. ($225; street $125): Microstuf, Inc., 1000 Holcomb Woods Parkway, Suite 440, Roswell, GA 30076; 404/998-3998.

ACCOUNTING

DELETED SINCE JUNE 1984:
FINANCIER II — *not easy enough to use*

RECOMMENDED HERE:
PC/TAXCUT

"PC/TAXCUT is the fastest-selling tax preparation software on the charts, right now."

Heroic helper for 1984, "what-if" for 1985: PC/TAXCUT

1984 version. Copy-protected. $195; street price $150. IBM PC/compatibles (128K). Best Programs, 5134 Leesburg Pike, Alexandria, VA 22302; 800/368-2405 (in VA: 703/931-1300).

JAMES STOCKFORD: The ***Whole Earth Software Catalog*** *operates a special interest group on CompuServe (type GO WEC at any prompt) in which members discuss our recommended choices and suggest alternatives. Recently, Michael Seibel logged on to give us this hot tip:*

PC/TAXCUT is the fastest selling tax preparation software on the charts, right now. Two programs come in the same box — one is a tax planner that helps you to choose where and how much to invest to minimize your tax bite; the other is the tax preparer.

MICHAEL SEIBEL: I bought PC/TAXCUT on April 14, 1984. I entered my tax data, deductions, and so on in response to program prompts and menus, and got my return in the mail on time the next day. Not only would I have overlooked tax deductions without it, but with that little advance planning I would no doubt have messed up the math as well.

I used the program on an IBM PC with dual floppies, calling for some disk swapping, which the program handled well. Swaps are only called for when you use unusual tax forms. The program is not copy-protected (although the print diskette is) and works on a hard disk without swapping floppies. I found the documentation quite clear, although I admit I didn't need it much, since the menus and prompts are easy to follow.

The tax planning program uses your basic tax data as defaults to calculate coming taxes based on the next year's tax rates/brackets and changes in the rules. The tax planner will let you save different scenarios for future reference. I used the planner to figure whether it was better taxwise to buy a house or rent when I moved to D.C. recently. You can use the planner without using the preparation program, but once you've entered your data it sure is nice not to have to enter it again for the next year's planning.

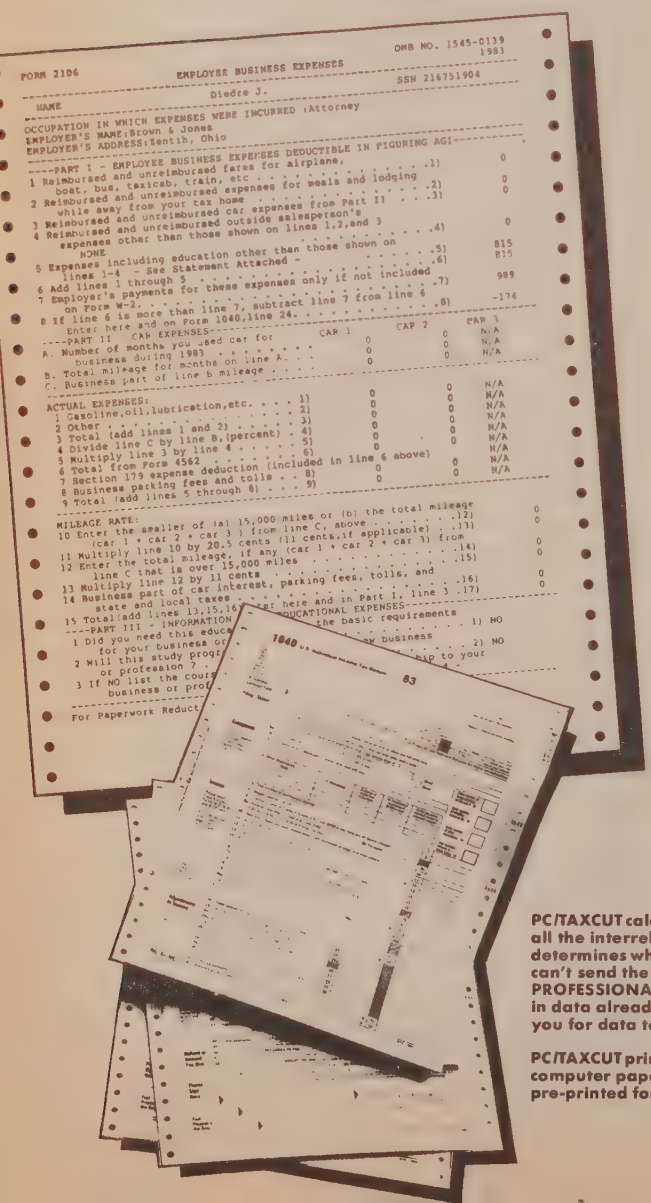
I have since received the update for the 1984 TAX PREPARATION program with a partially updated 1985 TAX PLANNER (more to come when the IRS publishes their latest rules). By the way, annual updates cost $75 per year, deductible.

JAMES STOCKFORD: Annual updates include new manual inserts as well as revised prep and plan programs.

The TAX PREPARER is not an electronic IRS form but a series of questions for you to answer. As it puts your answers together it makes comparisons to its built-in expertise (can such-and-such be allowed, fully? partially? depending on another answer?). As it runs it calculates deductions to your maximum legal benefit. For instance, after quizzing you on your itemizations it may decide to file the short form, should that be to your benefit.

Onscreen help is of two varieties. One is help with the program manipulation, the other is an exact page reference to the manual for more information on each question asked; the manual is a completely and clearly rewritten version of current IRS tax information.

ANDREA AND DANIEL SHARP: This type of tax prep/planner is a great aid, if not a total replacement for your accountant. It does not advise, but it does everything else. If you need to refer to past years (for income averaging or credits) it directs you to the exact line of your old returns. This program is a pleasure to work with; we found nothing objectionable in using it. You could succeed at even complex tax returns on your own, or take a printout with you to your tax appointment to greatly streamline the procedure.


FORM 2106 EMPLOYEE BUSINESS EXPENSES OMB NO. 1545-0139 1983

NAME Diedre J. SSN 216751904

OCCUPATION IN WHICH EXPENSES WERE INCURRED :Attorney
EMPLOYER'S NAME:Brown & Jones
EMPLOYER'S ADDRESS:Tenth, Ohio

PART I - EMPLOYEE BUSINESS EXPENSES DEDUCTIBLE IN FIGURING AGI

PART II CAR EXPENSES

ACTUAL EXPENSES:

MILEAGE RATE:

PART III INFORMATION

For Paperwork Reduct

1040 83

PC/TAXCUT calculates income, deductions, credits, taxes, and payments; considers all the interrelationships; assesses the different methods of calculating taxes; determines which is most beneficial; then shows you the result. Unfortunately, you can't send the data from any bookkeeping program except Best Program's PC/PROFESSIONAL and PERSONAL FINANCE programs, so you may have to key in data already entered in other programs. Fortunately, PC/TAXCUT prompts you for data to be typed in.

PC/TAXCUT prints virtually every one of the commonly used tax forms on everyday computer paper — except the 1040 long form which the IRS requires on their pre-printed form. Five 1040 computer forms are supplied free with the program.

DELETED SINCE JUNE 1984:
JACK2 — *bit the dust*
THE INCREDIBLE JACK — *also vanished*
DESQ — *too complex too survive*
TOTAL PROJECT MANAGER — *too clunky*

RECOMMENDED SINCE JUNE 1984:
SIDEKICK — *pop-up desktop tools*

RECOMMENDED HERE:
MACPROJECT
TIME LINE
SUPERPROJECT
PROPERTY MANAGEMENT

Project Management

SHARON RUFENER: Suppose you have a project to keep under control. Maybe you need to whip up a time or cost estimate for the job. Or do a feasibility study. Or track the progress and reschedule when things don't come through as expected. You may have seen or heard about project management concepts — PERT charts, Gantt charts, the Critical Path Method (a.k.a. "CPM"). Unless you were a business major in college (and maybe not even then), you don't know what these things are or how to use them.

Here, in a nutshell, is what it's all about:

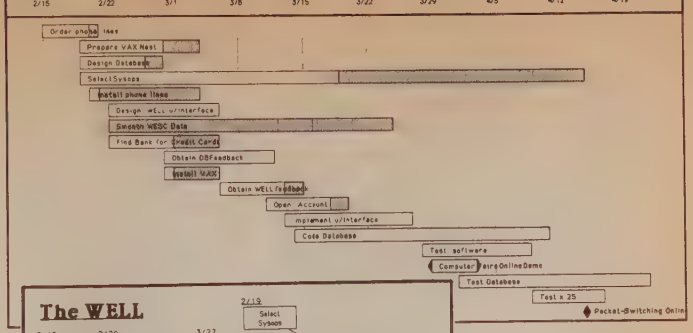
PERT (Program Evaluation Review Technique) charts are useful when you are doing your first pass at an upcoming project or just want the big picture of how things fit together. These charts illustrate the relationships and dependencies between tasks by means of boxes and lines.

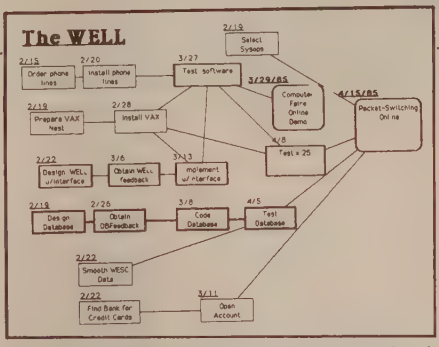
Critical Path charts show the path of activities, which determines the earliest date a project can be completed. They are a good tool for seeing which tasks can go on concurrently and which have to be sequential, for identifying the "critical" sequence, and for learning what effect changes or slippages in that sequence will have on the projected completion date.

Gantt charts show tasks as horizontal bars on a time grid, and are useful for monitoring time, cost, and resources in detail. They enable you to see what's going on (or should be going on) in any given time frame.

For the simplest projects, or for project scenarios which you already know by heart, doing it on the computer is probably more trouble than it's worth. Most small building contractors, for instance, prefer managing their schedules by the seat-of-the-pants method. A major advantage to computerized management is that you can try out changes without having to redraw an entire chart. Also, you can store records of prior projects and have a handy knowledge-base to assist in future projections. Furthermore, the computer can automate the tedious process of designing, drawing, and calculating the various interacting elements and putting them all together in presentable form. Who uses project management software? One publisher reports that purchasers include: people in the architectural and engineering professions, scientists, business executives, marketing and dealership people, software writers, manufacturers, film producers, accountants, and researchers.

There are a lot of software products out there clamoring for your consideration — many of them were originally developed by computer companies for their own in-house use. They use some or all of the management techniques, and often a hybrid version of the charts (a Gantt chart, for instance, which also shows the critical path). Many will let you nest charts — make a chart of general activities, then have subsidiary charts breaking things down into smaller detail. Cost tracking is another very useful feature — fixed or variable (time-dependent) costs can be attached to each task, and provide the ability to do what-if trade-off comparisons between time and money.





Two views of Whole Earth's budding WELL project (p. 109) drawn by MACPROJECT. The Gantt chart (top) lets us see what should be going on at any given time. The PERT chart (bottom) shows how each task relates to the overall project (critical tasks are highlighted by bold boxes).

Which package should you buy? The current products take different approaches to project management and emphasize one or another of the charting techniques. Since the different types of charts address different needs, you should know what you will be using the package for, and look for the appropriate capabilities. Also keep in mind the possibility of exporting the basic data from project management to a spreadsheet, and/or to a graphics program. Do you want to be able to massage cost data in a spreadsheet format? Or draw a pie chart showing how far along the project is? Look at the interface capabilities of the programs you are considering.

Lightweight champion . . .
MACPROJECT

Version 1.0. Not copy-protected. $125; street price $81. Macintosh. Apple Computer Corporation, 20525 Mariani Avenue, Cupertino, CA 95014; 800/538-9696.

SHARON RUFENER: Here is a nice, friendly, simpleminded little project manager with a tutorial which spoon-feeds its way into your brain. The basics are all here, and there's not much depth or complexity to confuse novices. Even a corporate vice president could master it in a couple of hours.

The central concept from which everything emanates is the PERT chart (which Apple calls their "Schedule Chart"). Most project management software has problems creating good-looking charts because of the limited form of graphics available to CP/M and MS-DOS computers. Consequently, the PERT charts can be awkward and confusing-looking. The Mac, however, is a graphics machine, so it can use its artistic talents to provide a visual approach to project definition.

You start by letting the computer draw rectangles representing tasks and milestones. Then put a name in each box, and connect the boxes with lines to show dependencies (the order in which things must be done). Bring up a form for each task and enter duration (in days) and resources (people or equipment, usually). On the costs form for the task, enter fixed costs and "fixed income" (usually budgeted funds). Finally, enter costs for each resource.

What you get is a PERT chart which highlights the critical

"Among the ambitious project managers, TIME LINE stands out. Not only does it give you the most bang for the byte, it does so with a minimum of ordeal."

path and which shows the starting and ending dates for each task. Additional reports are as follows. A "Task Timeline" is a Gantt chart showing activities sequenced from the earliest to the latest. A "Resource Timeline" Gantt chart has tasks grouped by resource. A "Cash Flow Table" shows costs, income, ending, and cumulative amounts for each two-week period. Finally, a "Project Table" shows all of the date, cost, and resource information for each task. Change any part of the underlying information and the program automatically recalculates everything.

You couldn't send a rocket to Saturn with this program, but you could plan a wedding or build a cottage. Its limits are: 6 resources per task; 50 resources per project; 200 tasks if you have 128K RAM, 2000 tasks if there is 512K to put them into. Duration is stated in days only, so you can't fine-tune things to hours or minutes. A limitation which makes it unsuitable for large, complex projects is that it is single-layered. You cannot have lower-level subordinate charts connected to higher-level, more generalized summary charts.

As for transportability, you can cut-n-paste the charts into any Mac program accepting pictures, and the tables into any program accepting text. All in all, a program that does what it intends about as well as possible.

Un-copy-protected middleweight . . . SUPERPROJECT

Version 1.0. Not copy-protected. $395; street price $200. IBM PC/XT/AT and compatibles (DOS 2.0 or higher; 256K; 80-column display). Sorcim/IUS Microsoftware, 2195 Fortune Drive, San Jose, CA 95131; 408/942-1727.

SHARON RUFENER: This is the software to get if you are more interested in defining a project before the work starts than you are in tracking and tweaking the ongoing activities. SUPERPROJECT offers the PERT chart approach, the best route to organizing your thinking and coming up with the big picture. Woody uses SUPERPROJECT to generate time and cost estimates for his consulting projects.

WOODY LISWOOD: This is the Sorcim/IUS entry into the project manager program sweepstakes. It is a winner. It is unprotected. I was able to start it up and use it without ever looking at the documentation. I cannot say that about any other project manager I have used.

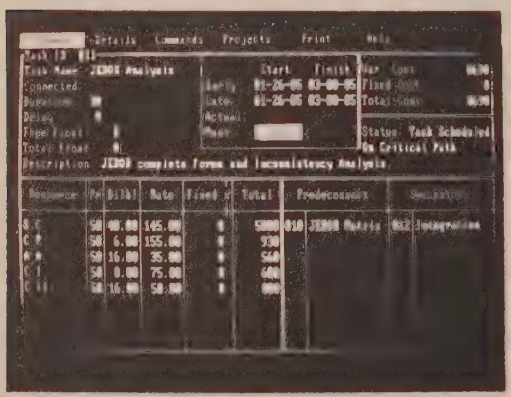
SUPERPROJECT works by having you create a PERT diagram onscreen. When you create a task, you give it a name, identify the primary resource, and give it a duration. You can then link that node to as many other nodes as you need.

There are pull-down menus using mice or keys. One feature which is usually lacking in these programs is proportional use of resources. That is, you want a resource to work on a project over ten days, but for only two hours a day. SUPERPROJECT is fantastic in this area. You can assign a resource to work all the available time, a percentage of the time, or just specify exactly how many hours will be worked at what rate. If you want to "what-if" costs, all changes can be recalculated continuously, or at the end of your changes. You control it. Sorts are also done by date, alphabetically, or by node number.

SUPERPROJECT prints out PERT and CPM charts. You can print any chart shown on the screen as well as a complete detail report, if necessary. You can have master projects and sub-projects as needed.

Resource allocation reports and other reports are output in SUPERCALC spreadsheet format. To get maximum use of this program you will need either SUPERCALC 2 or greater, or a program which will transfer the files to your spreadsheet format. The program also can give you output in the DIF format.

My only negative reaction is to the format for the critical path Gantt chart. I found it confusing and hard to read. Instead of using the typical arrows and symbols, it uses letters to specify the paths.



SUPERPROJECT lets you look at all the details of a task at once; any changes made here will be reflected in the overall project. For its true colors see back cover.

Heavyweight champion . . . TIME LINE

Andrew Layman. Version 1.1. Not copy-protected. $395; street price $250. IBM PC/XT/AT and compatibles (DOS 2.0 or higher; 256K; 2 disk drives or hard disk). Breakthrough Software Corporation, 505 San Marin Drive, Novato, CA 94947; 415/898-1919.

SHARON RUFENER: A happy user of TIME LINE said "This program is a game — it allows you to play without concern for how to use it!" The folks at Breakthrough bend over backwards to make their product "what-if-able" so you can painlessly try out variations. They also lead you by the hand nicely with LOTUS 1-2-3-inspired menus, context-sensitive help, and data entry forms. The result is to make things as painless as possible for a powerful program which needs to be fed complex data. Also, the documentation is exemplary.

This heavy-duty manager is the one to get for monitoring large projects. It outdistances its nearest competitors in functions and features. For instance, it will allocate and permit gaps and overlaps between dependencies; reschedule backwards from deadlines; permit unlimited dependencies per task; and can "filter" (extract) the critical path as a separate file.

TIME LINE uses the Gantt chart as its main tool. It can also generate PERT charts as a secondary view of the situation. The charts can be multilevel so you can break down great big jobs into smaller sub-projects. Up to eight generations of a schedule can be stored, so you can see how the reality compares to the projections.

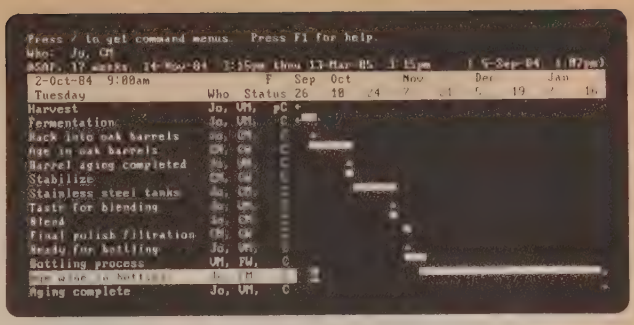
This is a heavyweight program. It can store over 1000 tasks per schedule with each one having unlimited dependencies. In addition, it has some thoughtful features. The calendar is very readable and comes with the national holidays preset, so little customizing is necessary. It allows you to measure tasks in hours and minutes, as well as days. There is an alarm clock to beep you out of your seat and into action. The Gantt time frame can be set to different scales — hours, minutes, days, weeks.

One feature Breakthrough is particularly proud of is "Resource Scheduling." A report will tell what any given person or other resource is doing during a particular time frame, and point out any conflicts. This report can also serve as an assignment sheet for each person.

The costing capabilities are more powerful than the competitor programs. People can be assigned hourly, daily, or weekly rates. Other resources can be given fixed, variable, or miscellaneous costs. Costs for each task can be accrued at the beginning of the task, prorated, or calculated at the end. Cost reports can be generated by resources, by tasks, or by period (weekly or monthly). You can assign up to eight costs per task.

For exporting data, TIME LINE will build files tailored to the destination program. It currently recognizes LOTUS 1-2-3, SUPERCALC 3, MULTIPLAN, DBASE II, and (soon) DBASE III.

A dot-matrix printer is not required to save the charts. Reports can be sent to screen or disk as well.



This TIME LINE Gantt Chart lists the project tasks that match the two specified criteria: projects assigned to Jo and CM.

Project Management Bottom Line

SHARON RUFENER: We didn't look at all the project managers in existence (time and boredom threshold precluded that!), but we did check out the main contenders. Which ones did we like best? MACPROJECT is admirably suited to novices to the PERT/CPM/Gantt disciplines. For general planning and monitoring of smaller projects it is the most usable. It also encourages the visualization approach to the big picture — probably the most sensible way to work through any problem involving entities and relationships. The other programs seem to require you to do your basic planning with paper-and-pencil lists before transferring the details into the computer.

Among the ambitious project managers, TIME LINE stands out. Not only does it give you the most bang for the byte, it does so with a minimum of ordeal. It is the product best suited to keeping complex activities under control.

The best conceptual tool for project definition, however, is SUPERPROJECT. There's no better way to get an overview of a project than by brainstorming with PERT charts. SUPERPROJECT is not as versatile or powerful as TIME LINE in the Gantt chart area, but seems adequate for most types of projects, and it is super friendly.

We looked at the latest version of the old standard (and current best-seller) TOTAL PROJECT MANAGER by Harvard Software Inc. and found it to be powerful, especially in its cost-generating capabilities, but too clunky and unfriendly for the average person to cope with.

Landlord's delight . . .

PROPERTY MANAGEMENT

Al Yardi. Version 3.12. Copy-protected. $395; street price $275. IBM PC/XT/AT; Apple II family/Apple III (emulation mode; 2 disk drives). Yardi Systems, 3324 State Street, Suite O, Santa Barbara, CA 93105; 805/687-4245.

DICK YORK: Committing our office to a computerized property management system a few months ago, I shopped for the "right" software. Altogether I looked at about ten different property management systems. I made a list of my minimum requirements, then eliminated some systems just from reading the brochures.

After culling out the obvious, my "probable" list was down to about three or four. Then I called the various software companies. One author could not tell me if his software could provide the information necessary to file an IRS Form 1099. In fact he asked, "What is a '1099'?" Another off the list. One company said that their "technical support" person would call back. They didn't. And another off the list.

Yardi Systems' brochure was suspicious; it claimed to do too many things too cheaply. Finally, I called Yardi anyway. Al Yardi answered the phone. I liked that. My questions were answered. I had found a program that was "user-written." I like vertical applications that are "user-written." Every programmer claims his program is "user-friendly," which means "your check is in the mail." Professional programmers usually have no idea what users really need. Al is a real estate broker, a property manager who wrote this program to fill his own needs. The program is simple and adequate. We found a glitch, but an update was promptly sent. Since then it has never failed us.

Yardi Systems would not be adequate for a large professional property management company, but is more than ample for a smaller company or individual owner. It expands easily and can accommodate as many accounts as you wish. It writes checks, including recurring payables; gives you vendor year-to-date totals, which is basically the "1099." It has a compressed mode of printing which allows 8½" x 11" paper. It will produce a customized message on tenant statements. On and on. We use it to track payments on notes, mortgages, and land leases as well. Yardi didn't design it for this, but the system is flexible enough to alter for your own accounts.

What don't we like about Yardi Systems? No ongoing tenant payment/charges history. End of month, end of history. Only the balances are carried forward.

Eighteen different reports may be seen onscreen or printed. You can access all reports at any time — a very important feature. All screens are self-prompting. It's easy to learn, even if you are not computer-experienced. Just jump into it with the provided sample data disk. Make a dozen mistakes; by then you understand the system. Easy!

Yardi is now shipping an "Advanced System" which I have not seen. It includes a general ledger, budgeting, condominium association management, and partnerships. The price for this is $795. A new module is planned that will provide a tenant history.

DRAWING

DELETED SINCE JUNE 1984:
4-POINT GRAPHICS — *replaced by MACPAINT clones*

RECOMMENDED SINCE JUNE 1984:
MACDRAW — *tools for the draftsman*
PICTURE IT/VIDEO SHOW — *$100,000 worth of graphic resolution*
THE DIGITAL PAINTBRUSH SYSTEM — *long-distance graphic collaboration*
QUICK-DRAFT — *boilerplate schematics and flow-charts*
PC PAINT — *best colors on the PC*
BLAZING PADDLES — *for the young and timid*
DAZZLEDRAW — *wonderful Apple II colors*
PC PAINTBRUSH — *concise, simple*

NOT RECOMMENDED:
PC PALETTE
DR. HALO

UPDATE

Merging computer graphics and video

*DONNA COHEN: Now that you can get inexpensive interactive videodisc interfaces for computers, people need graphics software that will take a computer-generated image and superimpose it onto video. Tecmar's Graphics Master board interfaces with the videodisc and computer, and has PC PAINTBRUSH by IMSI (**WER** #45, p. 87) in ROM. PC PAINTBRUSH, although easy to use, is not fancy enough for very professional work — in one project the artist had to go in and touch up every letter produced by the computer, but it did get the job done.*

*Paradise Graphics makes PRISM 2000, a complete (if somewhat expensive) system for video and graphics software — an ITT XT computer, two monitors (one monochrome and one color), drawing tablet, plotter, video camera, video interface, and Kodak Instagraphic slide maker, with two software programs — LUMENA (**WESC**, p. 132) and ARTWORK, a 3-D modeling program that interfaces with LUMENA.*

GRAPHICS MASTER BOARD ($695; includes PC PAINTBRUSH): Tecmar, Inc., 6225 Cochran Road, Solon, OH 44139; 216/349-0600. • **PC PAINTBRUSH** ($140): IMSI, 1299 Fourth Street, San Rafael, CA 94901; 415/454-7101. • **PRISM 2000** ($18,995): Paradise Graphics, 475 Gate Five Road, Sausalito, CA 94965; 415/331-2523. • **LUMENA**: available on Producer Series hardware (under $10,000) from Time Arts, Inc., 3436 Mendocino Avenue, Santa Rosa, CA 95401; 707/576-7722. • **LUMENA** software ($4000) and **Revolution Graphics Board** ($1745): Number Nine Computer Corp., 691 Concord Avenue, Cambridge, MA 02138; 617/492-0999. • **ARTWORK** ($2450): West End Film, 2121 Newport Place NW, Washington, D.C. 20037; 202/223-2938.

TELECOMMUNICATING

DELETED SINCE JUNE 1984:
HAYES SMARTCOM II — *too slow and difficult*
ASCII EXPRESS "THE PROFESSIONAL" — *too difficult, period*
TRANSEND PC — *now replaced by* TRANSEND PC COMPLETE

RECOMMENDED SINCE JUNE 1984:
PFS:ACCESS — *none easier to use*
APPLE ACCESS II — *best for Apple II computers*
PERSON-TO-PERSON — *comprehensible, with rolodex*
MACTEP — *hook up to your Mac for free*
COMMANDER ULTRA TERMINAL — *cheapest Commodore cartridge modem*
TEL-LETR — *Model 100 electronic mail service*
BLACK JACK — *make any phone anywhere a modem phone*
212 LP MODEM — *portable with no power plug*
DISK+ — *connects Model 100 to other computers*
C64 TERM — *Commodore version of VIDTEX*
!C TO MAC AND BACK! — *file transfer between incompatibles*
TRANSEND PC COMPLETE — *vastly improved*
MITE+ — *emulates mainframes*
CONEXUS — *wonderful bulletin-board software*

Amazing, inexpensive bulletin-board software:

FIDO

Tom Jennings. Free (downloaded); $100 (by mail). IBM PC/compatibles. Tom Jennings, 2269 Market St. #118, San Francisco, CA 94114.

ART KLEINER: Bulletin board software has come a long way since the early computer bulletin boards, which established electronic posting places on people's personal computers. Everyone who called in saw the same single sequential list of messages. Now you can dial into some bulletin boards and find private messages, choices of subtopics, and the option of opening your own topic. This package, one of the most sophisticated yet, lets you set up a bulletin board on your computer with all those features, plus the ability to restrict some people to some topics, bill callers for their time on the system, and even compile questionnaires.

Plus, there's the amazing service called FIDONET. If you're a trusted caller with a password, FIDO will let you leave messages for anyone who dials into any other computer running FIDO (at least any computer registered with your FIDO system). Between 1 and 2 each morning, every FIDO system shuts down; then they all call each other and exchange the FIDONET messages. As icing, when you send a FIDONET message, the FIDO you're dialing into will estimate the long-distance phone costs on the spot!

*We also recommend the conferencing system CONEXUS (**WER** #45, p. 91) on the IBM PC. The two programs have similar features; CONEXUS requires less hackerish fiddling to install and is more than twice as expensive. Since FIDO is freeware, you can download it (though it takes a long time) or order it by mail for $100. The FIDONET option makes FIDO great for businesses running at several locations.*

[Suggested by Mike Farren, system operator of SCI-FIDO; for conversation about science fiction only: 415/834-3319]

The full story online . . .

Magazine ASAP

DIALOG Information Services, Inc., 3460 Hillview Ave., Palo Alto, CA 94304; 800/227-1927 (in CA, 800/982-5838). Complete list of magazines available from Information Access Co., Online Services, 11 Davis Dr., Belmont, CA 94002; 800/227-8431.

ART KLEINER: This new online database offers the full text of magazine stories. If you know how to find the story you want, Magazine ASAP will send it cascading complete across your screen. By contrast, most online information services (including most of the rest offered by DIALOG) provide canned bibliographic references, which will usually send you scuttling to a library to look up the article citations. (With both forms, you must define your topic as narrowly as you can to avoid a deluge of irrelevant trivia pulled in by the literal-minded computer.) Full-text systems are especially valuable because you can search for a word that appears anywhere in the story, not just in the title or a few pre-selected distributors.

*There are a few other full-text services, but most are hideously limited. For instance, Grolier's updates its online **Academic American Encyclopedia** almost as infrequently as the paper version, and the beast doesn't even have an entry for 'IBM.' The only full-text services complete enough to be useful are grotesquely expensive, like NewsNet (**WESC** p. 145) and Nexis (**WESC** p. 144). (To*

"1985 will clearly be the year of the local multi-user conferencing system."

be fair, NewsNet newsletters are often cheaper than their overpriced paper equivalents.) I'm told the price is arbitrarily inflated by print publishers afraid of electronic competition. It all has to come down sometime, but apparently not soon.

Until that happy day, DIALOG's Magazine ASAP service is worthwhile. It includes two years' backlog from such rags as ***Aging***, ***Atlantic***, ***Backpacker***, ***Creative Computing***, ***Forbes***, ***Motor Trend***, ***PC Week***, ***Playboy***, ***Science***, ***Science '85***, ***Scientific American***, ***Skin Diver***, and ***Working Woman***. It has far less material on tap than its major competition, Nexis, but Nexis has a large start-up fee and requires its own software. Unfortunately, the ASAP database uses DIALOG's commands, the most inexcusably arcane of any popular online system (to find out what magazines the service covers, you must type E JN=A instead of something simple like LIST MAGAZINES). At $84/connect hour plus $7 for each article you pull in, this service isn't cheap. A typical topic search will cost $25 to $50, if you're careful. Measure that against the cost of a day of your time in a research library, with less likelihood that you'll find what you seek.

DIALOG also has a full-text ASAP service for trade and business journals, but for these references NewsNet is easier, cheaper, and more complete. DIALOG ought to offer both ASAP services through its cheaper nighttime service, Knowledge Index (**WESC** p. 143).

```
1791818   DATABASE: MI File 47  *Use Format 9 for FULL TEXT*
  Analysts think AT threatens makers of PC compatibles.
  Frazier, Donald
  PC Week   v1  p67(2)  Aug 28  1984
  AVAILABILITY:  FULL TEXT Online
  LINE COUNT: 00057
  SIC CODE: 3573
  NAMED PEOPLE: Morris, Rick-attitudes; Canion, Rod-attitudes; Matthews,
Dick-attitudes; McMurtry, George-attitudes
  DESCRIPTORS:     IBM    PC    AT    (computer)-innovations;      computer
industry-forecasts; microcomputers-innovations
  COPYRIGHT Ziff-Davis Pub. Co.& Electronic Magazine Div. 1984
  A "stiff challenge."  A "cop-out."  A "stay of execution."  Opinion seems
divided  on  how  IBM's  new  PC  AT  will  affect  the  companies  making
IBM-compatible microcomputers.
  On the one hand,  some compatibles makers,  such as Seequa and  Columbia,
say  the  new IBM line is too expensive and too powerful to have much of an
effect on their products in the near future.
    On the other hand,  analysts say the move represents a profound  threat
to the few higher-priced,  faster compatibles,  such as the Compaq and AT&T
machines.
```

This article turned up in a search about microcomputer industry "pundits." Here's the abstract; another command calls forth the full text.

UPDATE

Local Connections

ART KLEINER: 1985 will clearly be the year of local multi-user conferencing systems. It makes so much sense to call locally: instead of paying $6 to $25 an hour for your text to cross the continent to CompuServe or the Source on a special transmission network, you pay only for a local call and communicate with the people and businesses of your own community. The costs seem to range from $1 to $3 an hour, sometimes with a small monthly or yearly charge. The systems, running on minicomputers mostly, are more stable than microcomputer bulletin boards, and since you can have more than one person on at a time, you're locked out with a busy signal much less frequently. I envy the people who have one running in their community, and I look forward to using our own forthcoming Whole Earth 'Lectronic Link, called WELL (see "Gossip," page 109).

*So far I know of three systems worth checking out. ARBORNET, of Ann Arbor, Michigan, uses the same software (and, for a while, the same computer) as our fledgling WELL system. It supports about three dozen separate conferences on different topics; the liveliest are run by a high school student who calls herself Empress Lisa. CHARIOT, of Colorado Springs, Colorado, is run by renowned telecommunicators (and **WER** contributors) Sourcevoid Dave Hughes and Louis Jaffe. It's the multi-user continuation of Sourcevoid's Old Colorado City bulletin board (see last issue, p. 89); expect a lot of local politics when you dial in. THE CONNECTION, of South Bend, Indiana, has the most impressive features for conferencing and messaging that I've yet seen. All three networks have a pioneer flavor, maybe left over from the Old MidWest.*

FIDO (previous page) replaces our previous IBM PC bulletin board recommendation, IBBS. IBBS still exists, but the price has jumped from $50 to $5000; designer Gene Plantz charges that much because he helps purchasers set up and customize their systems. He does not sell IBBS without that support.

*The Source and CompuServe both have new rates for your initial signup. The Source's dropped from $100 to $50; CompuServe's climbed from $20 to $40. There are also rate changes for the MCI Mail Network (**WESC** p. 145), which was heretofore free to join but charged for each message you sent. Now the per-message charges are substantially reduced (45 cents instead of $1 for each letter sent directly from computer to computer), but they charge $18 per year to belong. Also, the rates for overnight delivery are higher. MCI Mail will print out letters on paper and mail them in another city for $2 — a good deal if, like me, you can never seem to find your stamps.*

```
chariot
Name? art
art on at: Wed Feb 13 14:04 1985
Last logged in: Wed Feb 13 14:03 1985

HOWDY PARDNER!
     Welcome to the ...
  XXXXXXXXXXXXXXXXXX
    X     OLD      X
    X   COLORADO   X
    X    CITY      X
    X  ELECTRONIC  X
    X   COTTAGE    X
     ================
Where the NEW West begins..
```

What you see when you log into the CHARIOT system.

ARBORNET: Network Technologies International, Inc., 315 West Huron, Ann Arbor, MI 48103. Voice: 313/994-4030; data: 313/663-6400. • **CHARIOT:** Chariot Communications, 2502 West Colorado Ave., Suite 203, Colorado Springs, CO 80904. Voice: 303/632-4848; data: 303/632-2906. • **THE CONNECTION:** Kangaroo Koncepts, Inc., 19141 Summers Dr., South Bend, IN 46637. Voice: 219/277-5306; data: 219/277-5743. • **IBBS:** Gene Plantz, System Software Services, P. O. Box 95638, Hoffman Estates, IL 60195; 312/843-2507. • **The Source:** Source Telecomputing Corporation, 1616 Anderson Rd., McLean, VA 22102; 800/336-3366 (in VA, 703/734-7500). • **CompuServe:** CompuServe Information Service, 5000 Arlington Centre Blvd., Columbus, OH 43220; 800/848-8199 (in OH, 614/457-0802). • **MCI Mail:** MCI Mail, 2000 "M" St. NW, Suite 300, Washington, D.C. 20036; 800/424-6677 (in D.C. area, 202/833-8484).

RECOMMENDED SINCE JUNE 1984:

DESK ACCESSORY MOVER — *freeware utility for the Mac*
FDUMP — *simple file-dump utility*
Great utilities — *18 essential tools*

RECOMMENDED HERE:
BETTERBASIC

Running MS-DOS

MATTHEW McCLURE: If your computing needs are simple, you may be able to accomplish much of what you want without buying dozens of applications programs. In any case, it's a good idea to know what you get as standard equipment with PC/MS-DOS 2.1. ***Running MS-DOS*** *explains how to use pipes and filters, create batch files and simple databases, all using just DOS.*

Suppose you want to find the customers in your DOS-based Rolodex file who live in the 707 area code, sorted alphabetically. FIND "CUST" PH | FIND "(707" | SORT >PRN *will find them, sort them, and send the output to the printer.*

Running MS-DOS *is written in tutorial form ("Type this. Now type that."), which I find very helpful — examples showing solutions to problems are inspiring.*

Running MS-DOS
Van Wolverton
1984; 350 pp.
$22.45
postpaid from:
Microsoft Press
10700 Northup Way
P. O. Box 97200
Bellevue, WA 98009
or Computer Literacy

Information is recorded on a diskette in narrow concentric circles called tracks; there are 40 such tracks on a diskette. A track is divided into smaller areas called sectors, each of which can hold 512 bytes of information (½K). This figure shows how tracks and sectors are laid out on a diskette. For simplicity's sake the illustration shows only four of the 40 tracks.

Three books from Don Lancaster

JAMES STOCKFORD: Don Lancaster writes books. He has been called "The Father of the Personal Computer," for it was his books that pioneer designers such as Lee Felsenstein and Steve Wozniak referred to in the days of the Homebrew Computer Club. In a crusty, arm-waving writing style Don presents explanations that are clear, kind, patient, and fun to read. We have already recommended his two-volume ***Micro Cookbook*** *(**CQ** Summer '83, p. 101) as an excellent introduction to computer fundamentals for programmers. His latest three books are unique in that they are for Apple II owners only and invoke software that he has devised as illustrations and tools. The books are available from stores or the publishers, but you can only get the software directly from Don at Synergetics.*

Watch out, though. He advertises this software as imperfect — "with warts" — in other words, buggy.

What? Why does this master of the Apple II release imperfect software? And why do we recommend it?

Don doesn't spend extra time prettying and polishing (and charging for) his software tools. Instead he makes his newest ideas available as quickly as possible at the lowest possible cost, and he expects you to change them to your own liking. We recommend this as a wonderful way to learn Apple programming, especially since you can call Synergetics' help line during business hours to ask any questions, free. We do not recommend specific disks, because their contents are always in flux. Call him to find out his latest.

All About Applewriter IIe

Of the three books, the most interesting in concept is ***All About APPLEWRITER IIe****. Beginning with the claim that APPLEWRITER IIe outsells all other Apple IIe word processors, Don proceeds to tear into the structure of the Apple II machine, its Disk Operating System, and especially APPLEWRITER II.*

It seems that APPLEWRITER II is built out of program modules collectively called 'WPL,' which is essentially a programming language optimized for word processing. Don's intention is to teach you how to use WPL to modify APPLEWRITER II to fit like a glove and in the process witness the intimate details of a well-written program. Absolutely perfect for the precocious teenager.

In addition to selling companion utility disks, Synergetics offers several free patches for both of the current versions of APPLEWRITER. One patch, NULL, provides an easy turn-off of embedded dot matrix printer commands. Another, SHORTLINE, cures the problem of printer commands counted as characters in the line, resulting in short-length lines. A third, the IIc DETRASHING PATCH, lets you use the IIe version of APPLEWRITER II on the IIc.

Enhancing Your Apple II (Vol. I)

This book is for the soldering set, tinkerers willing to switch wires, add transistors, and generally void the warranty in order to tweak the machine to higher performance. Here are instructions detailing a mixture of hardware and software modifications for your Apple II.

Some of the new tricks? Mix low-resolution and high-resolution graphics anywhere on the screen, create glitch-free animation, control screen scroll, say good-bye to occasional screen garbage and other annoyances. Of course, you've got to know your machine code.

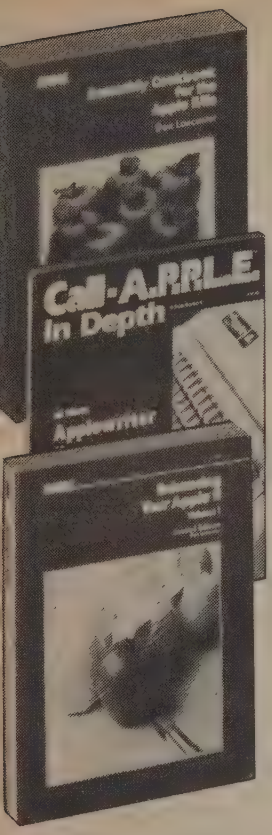
Don offers lots of disks for this one. Call to find out.

Assembly Cookbook for the Apple II/IIe

Assembly Cookbook for the Apple II/IIe *exhorts you to learn machine code so you can learn the Apple II system on a feeling basis. The first half of the book explains programming concepts, the second half shows you techniques, complete with model programs. Nowhere else is there such a combination of depth and clarity in an instruction book on this subject.*

Synergetics currently offers only one utility disk as a companion.

"It looks like you could do some very professional work with BETTERBASIC."



Assembly Cookbook for the Apple II/IIe
Don Lancaster
1984; 368 pp.
$23.95 postpaid from:
Howard W. Sams
and Company, Inc.
4300 West 62nd St.
Indianapolis, IN 46268
or Computer Literacy

All About Applewriter IIe
Don Lancaster
1984; 102 pp.
$14.50
postpaid (sold to members only — membership $51/first year) from:
A.P.P.L.E. Co-op
290 Southwest 43rd St.
Renton, WA 98055

Enhancing Your Apple II, Volume I
Don Lancaster
1984; 256 pp.
$17.95 postpaid from:
Howard W. Sams
and Company, Inc.
4300 West 62nd St.
Indianapolis, IN 46268
or Computer Literacy

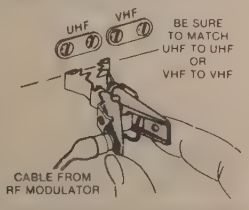
AWIIe Toolkit **$39.50**; utility disks for other books **$19.50**. All from Synergetics, 746 1st St./P. O. Box 809, Thatcher, AZ 85552; 602/428-4073.

•

Far and away the best way to pick up assembly language skills and new use ideas is to . . . TEAR APART EXISTING PROGRAMS.

•

On longer delays, it is always best to try and do other things while you are stalling for time. For instance, you can increment a random number pair while you are waiting for someone to press a key. Or you can use your animated graphics plotting time as part of the time delay for a sound. Always suspect long times spent "wheel spinning," and see if you can't replace stalling code with some useful time consuming task instead . . .
—Assembly Cookbook for the Apple II/IIe



Glomper of the first kind is made from a phono jack and a clothespin connector. Use it if you often change or test different tv's.

UPDATE
New BASICS

MATTHEW McCLURE: Two new BASICs look interesting: BETTERBASIC, reviewed below, and TRUE BASIC by Kemeny and Kurtz, who first invented BASIC at Dartmouth. The other novel programming environment is Digital Research's GEM (Graphics Environment Manager), which makes many of the Macintosh's nifty tools available on other computers, including the IBM PC and Atari's new "Jackintosh."

TRUE BASIC ($150): TRUE BASIC, Inc., 39 South Main St., Hanover, NH 03755; 603/643-3882 • **GEM** (TOOLKIT - $500, DRAW - $295, GRAPH - $295, CHART - $295): Digital Research, Inc., 60 Garden Court, Box DRI, Monterey, CA 93942; 408/649-3896.

Slip right in . . .
BETTERBASIC

Ivar Wold, Charles Ehlin, and Bill Pittore. Version 1.1. $199; street price $175. IBM PC family/compatibles (180K). Summit Software Technology, Inc., 40 Grove St., Wellesley, MA 02181; 617/235-0729.

JOHN SEWARD: BETTERBASIC is really a different language from BASIC, more like C disguised as BASIC. It supports recursion, arrays of arrays, overlays, block structures, and even windows. If you're used to BASIC, you can slip right into coding in BETTERBASIC with only a slight feeling of dislocation. If you're used to switching between different versions of BASIC, you'll have no trouble at all. If you're a BASIC programmer and you'd like to extend yourself into the power of a language like C in a relatively painless way, this is for you.

However, BETTERBASIC is not a true compiler — you don't wind up with a machine-language program after the compilation process. Instead, you have a FORTH-like object code which is then interpreted, running much faster than normal interpreted BASIC. If you want to create executable .EXE modules, you need to buy the BETTERBASIC run-time system ($250). The run-time system also permits overlays and chaining from program to program.

BETTERBASIC is an unusual BASIC compiler. Its ads tout it as an IBM PC BASICA compiler, which is why I got it — I needed to compile some BASICA programs that we'd converted over to IBM from a TRS-80 Mod III. They had a lot of double-precision arithmetic (16 significant digits), and the Microsoft/IBM BASICA compiler doesn't handle double precision. BETTERBASIC has no problem with double precision, and also lets you use as much memory as you have in your machine, instead of keeping you in 64K like PC BASIC. It has local and global variables, and eight different data types including structures and pointers. In fact, it's hard to think of a feature of C or PASCAL that has not been included in BETTERBASIC. But before it compiles straight IBM PC BASICA, you have to do a lot of work — replace or remove DIM, RESUME, WEND statements; declare all variables; set precision; remove variables from all NEXT statements; remove GOTOs that branch out of FOR-NEXT loops, and so on.

One problem with BETTERBASIC is that it tends to bloat your programs. The executable versions of the programs I was converting wound up being as much as six times as large as the original PC BASIC programs. If you have a number of programs which run each other or which are all called by a master menu program, you can solve the size problem by using overlays — then the main calling module stays in memory with the overhead, and calls the overlay modules in one at a time.

The disk is not copy-protected, and no additional license is required to market programs compiled using BETTERBASIC. I called several times with technical questions and they were always very helpful. It looks like you could do some very professional work with this BASIC-FORTH-C-PASCAL interpreter-compiler.

DELETED SINCE JUNE 1984:

WEEKLY READER (STICKYBEAR) FAMILY SOFTWARE — *passive*

RECOMMENDED SINCE JUNE 1984:

ATARI LOGO — *for Ataris*
COMMODORE LOGO — *for Commodore*
TLC-LOGO — *for CP/M computers*
DR. LOGO — *quick and easy for IBM*
IBM LOGO — *extra powerful for IBM*
PC LOGO — *runs on small memory for IBM*
KRELL'S LOGO — *inexpensive on Apple II*
TERRAPIN LOGO — *well documented*
APPLE LOGO — *good all around*
APPLE LOGO II — *for the Apple IIc*
SPRITE LOGO — *fancy, with lots of power for Apple*
TURTLE TOYLAND — *elementary LOGO*
CYBERLOGO TURTLE — *LOGO without words*
TURTLE POWER — *training true programming skills*
ATARILAB — *links up sensing probes to computers*
KIDS ON KEYS — *keyboarding for 4 to 6-year-olds*
KIDWRITER — *short-short storytelling for ages 6-8*
STORY MAKER — *for budding James Thurbers, ages 8-10*
ROBOT ODYSSEY I — *Yahoo! As inventive as ROCKY'S BOOTS*
PRINTSHOP — *Even small people can make giant posters*
AQUARIUM — *Reprogram the little fishes*

RECOMMENDED HERE:

VOYAGE OF THE MIMI
GET TO THE POINT
WORD QUEST
PUZZLE TANKS

A whole kit and kaboodle of stuff — wall poster of whales and sea mammals, VOYAGE OF THE MIMI storybook, teacher's guide, navigation chart, four software programs, and more — complement a PBS video series for adventuring classroom landlubbers.

Real whales, real programming . . .

VOYAGE OF THE MIMI

Copy-protected. $1350 (includes video cassettes, 25 student guides, overview teacher's guide, and four learning modules; each component may be purchased separately). Apple II family (64K; WHALES AND THEIR ENVIRONMENT will not run on the IIc). Holt, Rinehart and Winston, 383 Madison Ave., New York, NY 10017; 212/872-2000.

ROBERT SCAROLA: Television has been in the schools as a learning and teaching medium for years, both as a means to provide video transmission of courses and as a means to visually represent events or ideas. Marlin Perkins, Carl Sagan, Jacques Cousteau . . . the list goes on and on. We have public television to thank for what are, most of the time, the only programs worth watching on "The Tube."

Now we also have to thank the Bank Street College of Education for teaming up with Holt, Rinehart and Winston, publishers, to produce the ***Voyage of the MIMI*** *series for public television, and to partner the series with a software and documentation package that has to rank as one of the best produced in 1984. The idea is simple and unique: send out a real sailing ship (the MIMI) with a mixed crew of adults, teens and children on an expedition to track, observe, and catalog humpback whales off the Georges Bank in the Gulf of Maine. Videotape their adventures and create a series of 15-minute segments for broadcast on public television during the school day. Along with the physical drama of seeking out the humpback whales, learning to sail, encountering storms at sea, and learning to navigate and maintain a sailing ship, add the human drama of people learning to live with each other on a small ship at sea. Spice that with a grey-bearded captain and a deaf teen who teaches everyone sign language and you've got an engaging series for kids.*

But that's only the beginning for the ***Voyage of the MIMI****. It's not just Marlin Perkins running before the wind. The people at Bank Street improved on the use of video as a learning medium by providing an extremely well done package of learning materials that keys in with the series. The package includes a softcover text that recounts the story of the* ***MIMI*** *in words and pictures; a companion teacher's guide; a navigation chart of the waters off the Georges Bank; a colorful wall poster of whales and other mammals; and, most importantly from my viewpoint, a set of software programs that not only attempts to reinforce learning about whales, direction and navigation, but also introduces the concepts of problem-solving and programming.*

These software programs are carefully produced. The first set of two programs (there are two disks in each set) introduces the student to logical concepts of computing by employing LOGO-based commands which the student uses to steer a "ship" (actually an enlarged "turtle" triangle) around the screen in order to "hit" a trapped whale and free it. When the correct series of commands is finally achieved and the whale is freed, it swims away, spouting water and eventually diving. The student can then play again to try to free the whale in fewer moves. There are also directional and distance aids which the student can activate on the screen by simple commands that provide an easy means of establishing the degree on the circle the student must enter in order to aim at the whale, and the distance the student must move in order to hit the whale, both of which require LOGO commands like RT 90, FD 200. Once the student masters this first level of activity, the next challenge is to hit the whale by navigating around a series of islands that appear on the screen. Finally, the student is challenged to get close enough to the whales to identify their flukes by taking a snapshot of them and then reading the fluke lines as you would a set of fingerprints. When he's had enough whale

In the storybook's fifth episode, Captain Granville and crew head the MIMI back to shore. After two weeks of collecting data on whales, we find all the sailors (except C.T. and his grandfather) ready for land, video games, and something to eat besides peanut butter.

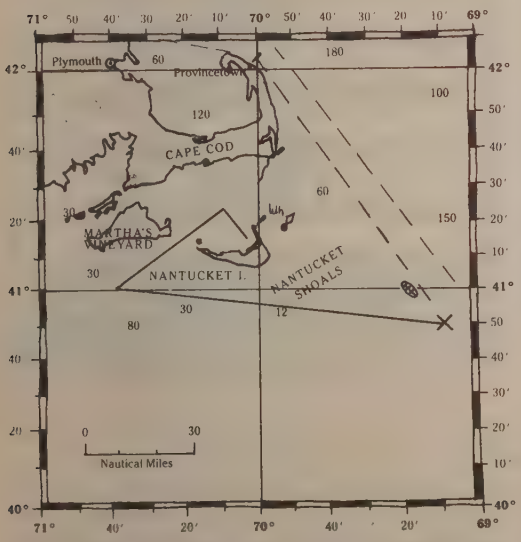
"Send a sailing ship on a whale tracking expedition, film it, then partner the resulting public television series with one of 1984's best software and documentation packages."

bumping and fluke reading, the student can go to "Doodle Mode" and do some free-form graphics using the LOGO commands he or she has learned.

The second set of disks goes further in the direction of teaching LOGO programming procedures. You can challenge a partner in this series and see who can develop a program that will most efficiently move over a random series of spots on the screen. You use commands like REUSE, LIBRARY, *and* REPT, *write programs, save your programs, and make procedures. At the end of this series there is a "Super Doodle Mode" for doing more advanced drawing. Thus, in the context of a sailing adventure, students learn programming skills to find their way around. And these are eventually directly transferrable to more advanced programming in LOGO.*

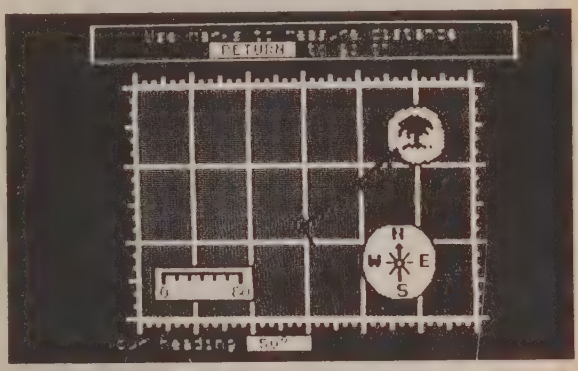
Then, for students in junior high, or for students who have successfully completed the first two sets of programs, there are two more sets designed to teach navigation, charting, compass direction finding, and speed, time, and distance relationships. These programs are designed as games, finding "Pirate's Gold," being "Lost at Sea," and performing a "Rescue Mission." They make use of the computer as an interactive X-Y coordinate graph, a simulated Radio Direction Finder, and a simulated radar screen and bridge of a ship. In all these cases a specific task is presented and the tools to accomplish the task provided, so that as nearly as possible the passive experience of watching someone else's adventures on television can be transformed into the active experience of navigating in a computer simulation.

The documentation provided for all four sets of programs is excellent. In each case it gives a clear guide to what's being taught and why, and a clear set of directions for how to use the software. (This, incidentally, is the first attractively packaged software I've ever seen. The disks themselves are colorful, blue and green with pictures of whales and sailboats, and placed inside clear plastic sleeves. Nice.)



Latitude 40°50', longitude 69°10'. You must avoid shoals, sunken wrecks, and oil tankers in busy sealanes; you must sail in straight lines, make few turns, and stay in water ten feet deep. How? VOYAGE OF THE MIMI's teacher's guide introduces navigational concepts, skills, and tools that students use later to win computer games. Good luck, skipper.

The Voyage of the MIMI *opens new territory in learning software. It attempts to merge two tools of the new technology, video and computer software, into a whole that is greater than the sum of its parts. I think it succeeds admirably as a first attempt, and is well worth the investment on the part of any school that wants to involve children in learning through both imagined adventure and practicing skills.*



Hurricane! In this VOYAGE OF THE MIMI computer game, students grapple with "speed x time : distance" relationships in order to navigate their boat safely to an island before the storm hits.

UPDATE

Practice and drill

ROBERT SCAROLA: In the ***Whole Earth Software Catalog*** *(p. 186) I listed three companies making serious attempts to develop lines of educationally sound software for practice and drills. Sunburst must be added to this list. They have recently produced a series of software programs for elementary school that achieves that delicate balance between intellectual challenge and enjoyment. GET TO THE POINT offers practice in decimal point notation. It successfully presents difficult concepts, like the idea that a three-digit number can have a lower value than a two-digit number, and sets up a variety of game formats that individual students can play. It can also be used by partners for a "binary search" method of finding answers. Students learn the value of continually cutting the search "in half" in order to logically reduce the limits of each guess. This same search strategy is used in WORD QUEST, in which one student challenges another to guess the word entered into the computer. The program successively narrows the options as the student guesses, again reducing the search interval with each guess. PUZZLE TANKS, the third program in this series, adds a graphic representation of a tanker being filled with liquid to assist development of mathematical skills. Students must determine the correct proportions from various storage reservoirs required to mix the amount of punch or juice that exactly fills a tanker of given capacity. The program spices up the thinking process by including some problems that cannot be solved; the correct student answer for those problems is "impossible." A good antidote to television commercials in which intricate problems are always solved in one minute with the right bar of soap.*

GET TO THE POINT, **WORD QUEST**, and **PUZZLE TANKS** ($55 each; Apple II family): Sunburst Communications, 39 Washington Ave., Pleasantville, NY 10570; 800/431-1934 (from AK, HI and NY: 914/769-5030, collect).

DELETED SINCE JUNE 1984:
MUSICLAND — *spectacular but defunct*
METATRAK II — *defunct for now*
INSHAPE — *not inspiring*
THE RUNNING LOG — *outdistanced by competitor*

RECOMMENDED SINCE JUNE 1984:
DRUM-KEY — *2000 drum notes in any combination*
COMMODORE BONUS PACK — *no-frills entry into electronic music*
MUSIC MACHINE — *cheapest synthesizer emulator available*
The Decillionix DX-1 — *plug board into an Apple II and record sounds*
THE INTERPOLATOR — *analyze harmonic content of DX-1 files*
The Colortone Keyboard — *inexpensive, works with C-64*
Sensaphone — *talking box monitors location, reports by phone*
Personal Computers and Special Needs — *presented by type of disability*
Personal Computers and the Disabled — *many, many resources*

RECOMMENDED HERE:
JAMES F. FIXX: THE RUNNING PROGRAM
THE BOOK OF CHANGE: I CHING
SKYTRAVEL: WINDOW ON OUR GALAXY
COINS

Finally here and pretty good . . .

JAMES F. FIXX: THE RUNNING PROGRAM

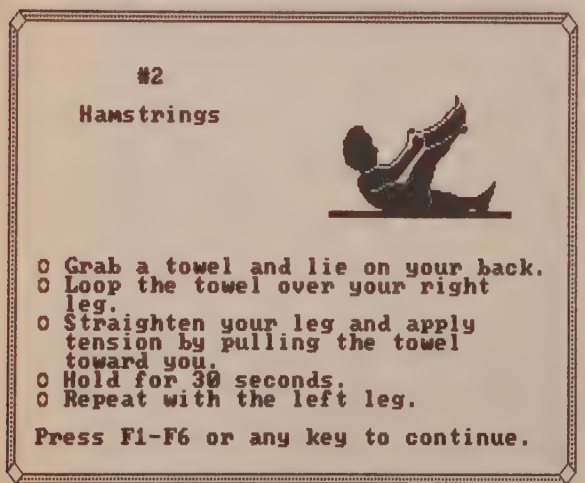
Copy-protected. $80 (without backup); $100 (with backup). IBM PC/XT/AT and compatibles (128K); PCjr (256K). Requires 80-column display. MECA, 285 Riverside Ave., Westport, CT 06880; 203/222-1000.

STEWART BRAND: Like a dedicated coach, this program nags and encourages and instructs, and first thing you know you're in good shape and inclined to get even better. I'm halfway through a 30-step schedule to build to three miles a day running; no book has managed that before. Something about proudly recording my progress and then having it analyzed and displayed from a half-dozen different directions — in relation to my diet, to the shape I was in when I started, to previous weeks, and to the goal — keeps me making progress to report.

The program is appropriate for anyone from a confirmed couch potato to a professional athlete. Answer its questions, and you'll find out about your personal heart-attack risk, your overall health, and the effect of your lifestyle on it. You'll take some tests (two-mile run, Harvard Step Test) that'll tell you what condition you're starting in. Also the program will analyze your diet, give you a handy way to keep track of it, and advise how to improve it. After two months of steady use, I'm still finding corners of THE RUNNING PROGRAM that are new and enlightening.

Like its cousin from MECA, the superb ANDREW TOBIAS MANAGING YOUR MONEY, this program has an admirably tiny manual. All the text (some 140 pages) is scattered around in various branches of the program itself, so wandering, learning, reading, and entering information are all tangled together, as they should be. Jim Fixx is not as compelling a writer as Andrew Tobias (and not as alive — Fixx died of heart failure while running in Fall '84; probably as happy a way to go as any for the author of the influential ***Complete Book of Running****, though a tad embarrassing), and the program is not the born natural that MANAGING YOUR MONEY is. But they make a wholesome pair, gently but firmly imparting physical and financial health. They're good life sharpeners.*

This new program is conspicuously better than INSHAPE ($95 list) and THE RUNNING LOG ($40 list), recommended on page 196 of the ***Whole Earth Software Catalog****.*


#2
Hamstrings
0 Grab a towel and lie on your back.
0 Loop the towel over your right leg.
0 Straighten your leg and apply tension by pulling the towel toward you.
0 Hold for 30 seconds.
0 Repeat with the left leg.
Press F1-F6 or any key to continue.

Six mildly animated stretching exercises are a bonus in the current best get-in-shape software, JAMES F. FIXX: THE RUNNING PROGRAM.

Inspired fortune-telling . . .

THE BOOK OF CHANGE: I CHING

Les Crane and David Badley. Copy-protected. $40. IBM PC/compatibles; most CP/M machines. Software Country, 270 N. Canon Drive #1297, Beverly Hills, CA 90210; 213/278-8450.

STEWART BRAND: How appropriate that this ancient (since 3,000 B.C.) Chinese oracle and repository of Taoist wisdom has been translated into a computer program. It's had program qualities all this time — binary notation (yin and yang versus 0 and 1), tree structure, use of random numbers, and design as an applications tool.

I think Fu Hsi, King Wen, and the rest would approve of this version of their work. It is quietly elegant in the way it prompts you through the process of consulting the oracle and then studying the reading. Instead of yarrow stalks or coins, you use six taps on the space bar to build the hexagram, changes, and subsequent hexagram that constitute a reading. Screen by screen the stages of the text

(nicely translated) are unfolded, and you're offered the choice of filing and/or printing the result.

In the tradition of psychologist Carl Jung's introduction to the famed 1950 Bollingen edition of the ***I Ching****, I asked the oracle what it thought of being electronic. Reply: THE CLINGING ("Shining twice . . . depend on establishing a support system. . .," etc.) changing to DARKENING OF THE LIGHT ("You must learn to understand the nature of evil. Do not make peace with it. . .," etc.) Long in the tooth, the* ***Ching*** *still has its bite. How many computer*

". . . go anywhere in the world and to any time plus or minus 10,000 years."

programs even acknowledge evil? How many fewer have intelligent advice on the subject?

It's an adroitly done, dignified program, with a fine brief manual. You need no previous knowledge or experience of the ***I Ching*** *book to get full value. As a bonus in the program there's also "Decision Maker," a succinct factor-weighing utility to help you sort your thoughts for choosing between alternatives of any kind. One banal, one profound — two levels of helping you decide.*

Streamlined records for coin collectors . . .

COINS

Marvin Mallon. $95. IBM PC/compatibles; Apple II family; TRS-80 Models I, III, 4. Compu-Quote, 6914 Berquist Ave., Canoga Park, CA 91307; 818/348-3662.

JAMES STOCKFORD: Why spend $95 on a coin-collecting database? Why not use your everday data-management software and set up your own coin files?

Four reasons why not: 1) All the data for the 1600 most common standard American collectable coins is already entered for you. 2) The program is set up to receive quarterly pricing updates at $25 each (including program enhancements for free). 3) It performs the calculations for the reports (percentage changes of value, total costs, total value within categories). 4) The program is streamlined for printing reports; in fact, it is mainly a muscle-bound report-printer controlled by a little file manager with loads of data.

COINS is menu-driven; most of its options are choices of report forms. To add information for standard coins to your collection, select the coin number (from 1 to 1600) and the program will fill in current statistics for that coin. You fill in your cost, selling price, and letter codes for suppliers and purchasers. Can you include records for nonstandard coins? Yes. It's just a matter of entering the information. If you're familiar with BASIC programming you can customize the program to your liking (adjust printer driving features, for instance).

Zoom into "deep sky" . . .

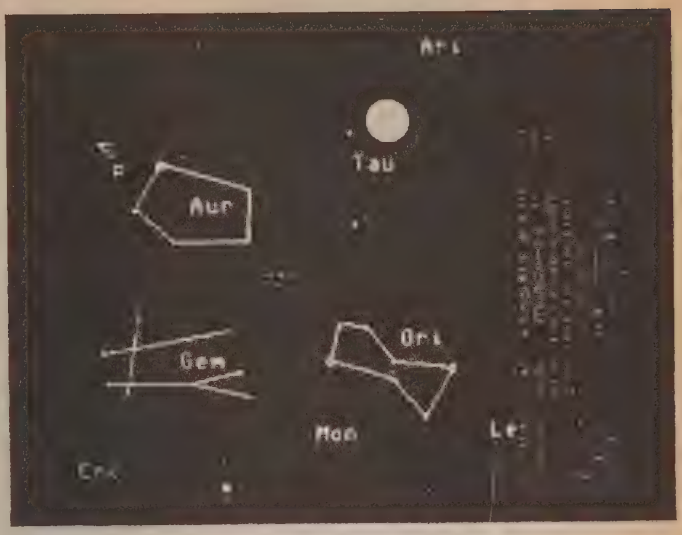
SKYTRAVEL: WINDOW ON OUR GALAXY

Copy-protected. $35; street price $25. Commodore 64. Commodore Business Machines, 1200 Wilson Drive, West Chester, PA 19380; 215/431-9100.

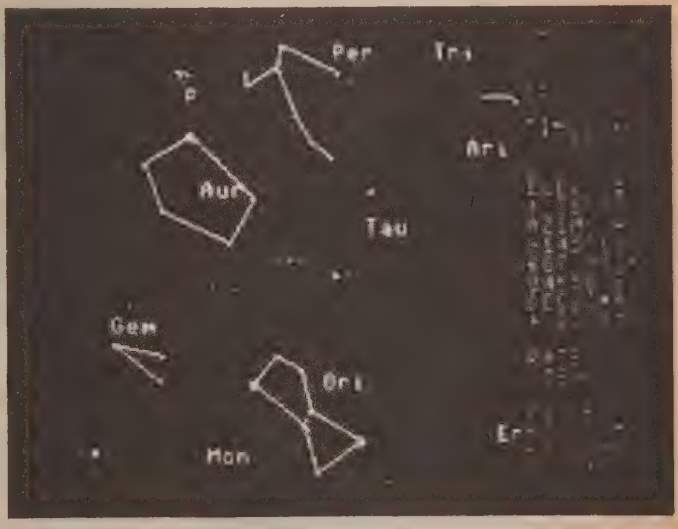
CHARLES ELLIS: It's January 1, 1985, and you're in Washington, D.C., looking at the Southern sky at 4:15 in the morning; the screen displays the stars you see. Prefer somewhere else? Trade "Sky" for "Map" and go anywhere in the world (by joystick or cursor keys) and to any time plus or minus 10,000 years. Go back to "Sky" and let the stars move from 1 to 64 times natural speed, or hold everything still while you ponder, for example, whether an unusual conjunction of Jupiter and Saturn might have made a signpost to Bethlehem. But why be provincial? Open up "Deep Sky" mode (suppressed until now to reduce clutter) and consider the galaxies, nebulae, clusters, clouds, and other globs of Way Out There. To look closer, reduce the field of view (from 72° down as far as 9°) and so zoom outward (whereupon, for example, certain stars that appeared single are revealed as double).

The full list of this program's features is long — comets, eclipses, celestial coordinate overlays (good for printing sky maps), onscreen tutorials, star-finding, tracking, and more. One of the best features is the accompanying manual. Because running this home planetarium is mechanically easy, most of the book is a carefully scaled introduction to the history and practice of astronomy.

For anyone at all intrigued by the swing of the Pleiades, eclipses of the sun, or the flickering connections between the lights in the sky and our quizzical race, a grabber. For anyone involved with spherical trig, astrology, or any form of navigation, a must.



The night sky to the southeast as it will appear at 1:01 A.M. on October 30, 1985, in Sausalito, California. Press function key F5 while in SKYTRAVEL to find Halley's Comet and center it on the screen under the crosshairs. The elevation, azimuth, right ascension, and declination are displayed. The white disk is the moon, bright and close.



A few weeks later in November, views of Halley's Comet (still under the crosshairs) might be better when the moon is below the horizon, the sky darker, says SKYTRAVEL.

Echoes from readers back to the *Whole Earth Review* (27 Gate Five Road, Sausalito, California 94965)

Whatever happened to Pol Pot's teacher?

Excerpt from **Semiotext(e)**, *included in our review in* **WER** *#44, p. 72:*

"Among the diligent quiet students in Amin's seminar were also some Cambodians; one was named Khieu Samphan, another Jeng Sary, a third Saloth Sar — better known under his nom de guerre *POL POT. Fifteen years after they all had passed their exam with high honors, these people carried out the advice of their teacher with consistency. Anyone who can read or owns a TV knows about the result; the historians disagree only about whether the experiment of the Khmer Rouge cost the lives of one-half or two-and-one-half million Cambodians. What happened to Samir Amin and what he thinks of his pupils, I do not know."*

. . . While reflecting on whether my newly acquired Apple IIc has been faithfully poisoning me, I came across your commentary on Samir Amin. As I have spent some time in Senegal where he has been residing for the past several years, let me provide a brief update to the story. First, during the 1960s, Samir Amin used his Mali experience to land a teaching position with the economics faculty of the University of Dakar. There he continued to expound many of the themes you cite in a number of books and essays, the best known of which is his **Accumulation on a World Scale**, first published in French in 1970, with an English translation published in 1974 by Monthly Review Press [$11 postpaid from Monthly Review Press, 155 West 23rd Street, New York, NY 10011]. During this time, he also became the director of the United Nations' Institute for Development of Economic Planning, or IDEP, based on Dakar. However, in the last few years, he has since left both institutions, and he now works with UNITAR, another UN agency. Having read most of the things that he has published over the years, let me point out part of his continuing appeal: while the route to development is hardly best achieved by the bloody tyranny of a Pol Pot, for drought-stricken Sahelian countries debilitating urbanization is being further accelerated by a continuing policy neglect of agriculture. Thus, while a forced repatriation to the countryside is as irrational as a regime of enforced autarky, as long as no significant change takes place in agriculture the more extreme positions of a Samir Amin will continue to draw an audience in third-world countries.

Phillip LeBel
Associate Professor of Economics
Montclair State College
Upper Montclair, New Jersey

Inconsistent subscription terms

Mr. Brand, Mr. Kelly:
I'm addressing this letter to you rather than Subscriptions because I believe the issue I raise deals with the integrity, trustworthiness, and fair dealing of **CoEvolution Quarterly** (shortly to become the **Whole Earth Review**) to its subscribers.

As a long-time subscriber, I expected and was gratified to receive a subscription renewal form shortly before the most recent issue, the last on my subscription.

With most magazines, I expect to (and almost always do) receive a series of offers to resubscribe, each one offering better terms than the last one. Usually, holding off payment until the last minute materially rewards me.

CoEvolution, however, I believed to be different, more like an information utility bill. Each mailer would offer consistent, unvarying terms to new subscribers and renewing subscribers alike, identical to the order blank in **CQ**. **CQ** was therefore worthy of my normal bill-paying nature: to put it in the bill drawer along with the "other" utilities and the mortgage, and to pay it the first of the following month.

Therefore, I was most disappointed to find that the **CQ** issue I received near the end of the month had a "Special Package Offer" not mentioned in the subscription mailer. Another mailer received since the magazine issue still doesn't have the "Special Package Offer." Neither did it mention the forthcoming changes to **CQ**.

I selected the "Special Package Offer," which seems to be a better deal for subscribers new and old alike.

Must **CQ** (and now **WER**) lose its integrity with subscription flim-flam, or is this merely a case of the right hand not knowing what the left hand has done? Must I treat your requests to resubscribe identically to the somewhat suspect methods of most magazines?

Peter B. Manston
Sacramento, California

Mr. Manston, I agree. We're returning to uniform pricing of the magazine. Because of our exceptional linking of the **Whole Earth Software Catalog** *and the* **Whole Earth Review**, *it seemed an experiment worth making to offer a package deal. Result: we're reinforced in our former approach.*

—Stewart Brand

Renee Downing

Abbey access

Thank you for returning my photographs and for the advance proof of Wendell Berry's article. Just one point: Berry's article is mostly about the following books, which should be added to the short "bibliography" at end of piece: **The Journey Home: Some Words in Defense of the American West** (1979) [$8.50 postpaid from E.P. Dutton, 2 Park Avenue, New York, NY 10016]; **Abbey's Road: Take the Other** (1979) [$7.20 postpaid from E.P. Dutton]; **Down the River** (1982) [$8.50 postpaid from E.P. Dutton]; and **Beyond the Wall** (1984) [$9.10 postpaid from Holt, Rinehart & Winston, Attn: Order Dept., 383 Madison Avenue, New York, NY 10017].

Edward Abbey
Oracle, Arizona

RE: "Public Image"

With the last six magazine subscriptions I've sent for, [I've written] the following (or something similar) at the bottom of the order form:

"You do not have my permission to give my name to mailing list companies. My name is my property. Your acceptance of this subscription application and payment is your agreement to the above, furthermore, you agree to pay me $200 if you do send my name for use in mailing lists."

I haven't put this to the test.

In your article, you failed to mention one method to track the dispersal of mail-list information — variants on mailing addresses, given only to specific places. The duplicity of

received advertising tracks the info-dispersion. (To get on "a zillion" lists, buy a PC.)

Personally, I would be delighted with a national bill requiring that any "Public Information Gatherer" (to be defined) be required to obtain written permission to transfer such information to third parties prior to dispersion. (Police agencies require warrants, of course.) Information would include all those types mentioned in your article.

I also feel I have a right to know certain types of information, such as the originating caller phone numbers of all calls I receive. Wouldn't THAT cut down on tele-computer abuse!

. . . Having designed large relational databases myself, I know what could be done with the "right" information "cut the right way."

Your next article might contain a form letter that people could use to deny permission of information dissemination, or an address to obtain a rubber stamp for use on all credit card slips and checks. Seriously though, people ought to be made aware of the potential for information theft in use of unencrypted home banking terminals.

Somebody, someplace has to tell the world, your article isn't a bad start.

William G. Hillman
Poughkeepsie, New York

P.S. I do not wish my name to be placed on mailing lists as a result of this letter . . .

Satellite dishes for the masses

We were in Guaymas, Mexico, several weeks ago, riding through a small poverty-stricken area with a guy from Chicago. He was busy denigrating the area, "who could stand to live here, you wouldn't know anything about the world, it is so squalid, etc." I was busy taking pictures of houses perhaps 25 feet square with a 1954 Chevy pickup in the driveway and a satellite dish on the roof. An area of perhaps 1,000 people, with about 50 satellite dishes!

He asked what I was doing, and I told him. He said, what do those dishes do anyway? I said, well, these people can get 130 TV channels from at least seven nations in five languages, and in addition they can get sub-carrier FM stereo. In other words, they have Quebec, Venezuela, Mexico City, all of America, BBC, and even Japan occasionally; and they get the Chicago Symphony as clearly as you do.

He was stunned. And silent for a while. And then he said, "What do they think when they see all that, and they look at this, where they live?" And I was silent, and Nan was silent, and he was silent.

And then I thought about the Khomeini revolution being dependent upon the audio tape recorder (portable energy, portable programming, engaging medium, and barter-goods level of investment); and the fact that a picture is worth a thousand words; and about the Sony intention in mid-1986 to put a $200 videotape player on 8mm on the market seeking to make it the Walkman equivalent for pictures. And I can't get rid of the notion that Scarcity and Abundance will have to be dealt with by the materialistic nations (today's equivalent of the monarchies that went down to democracy's force with the advent of the cheap printed word).

Charles House
Palo Alto, California

Re-redefining cities

I feel I must take issue (on a manual typewriter yet) with Peter Calthorpe's article on "Redefining Cities" (March 1985).

It may be conceivable that the power and water bills that show up in the urban dweller's mailbox average less than those of the suburbanite. These costs, and related energies, are only a fraction of the total required to operate a city . . . San Francisco's density is made possible by the work done by sun, fuel, and fertilizer over the Sacramento Valley as well as the High Sierra landscape which concentrates the water supplies at Hetch Hetchy. Without such convergence the city might well be represented by an old church and a few thousand houseboats rocking in the Bay. . . . However, if growth of any form is to occur it needs to be emphasized that the city doesn't stop at the political boundary — it is just the center of a much larger web of energy support.

Craig Diamond
Gainesville, Florida

Reader threatens severe measures

Those of us who have for a long time considered "computers as poison" found virtually nothing of interest to read in the first issue of **Whole Earth Review**. Does Stewart Brand truly realize how much many of us have relied psychically and emotionally on the existence of an institution like the **CoEvolution Quarterly**? I hate to contemplate the likelihood that I would simply let my subscription drop at renewal time. Which magazine is left to tell us about Gaia, road-kill cooking, an articulate and disgusting viewpoint on the pleasures of the lesbian relationship, the history of deforestation in Greco-Roman times, or the relationship between work roles and gender?

Am I being forced to look to my **Utne Reader** (a sly clone of **CoEvolution Quarterly**) for stuff of interest?

Even having to write this letter depresses me; how could this have ever happened? The small principality constituting the 22,000 former readers of **CoEvolution Quarterly** should institute a coup and NATIONALIZE **CoEvolution Quarterly**! Take a poll and see how many readers you will have left if you keep up this stuff about computers. I can just as easily read my Radio Shack Catalog which comes free.

I do not plan to commit suicide over this, but I was honestly depressed for a few days as if I had lost a dear, loving relative.

THIS IS ME DEPRESSED OVER THE (APPARENT) TERMINAL ILLNESS OF AN OLD FRIEND (CO-EV QUARTERLY)
MUST I "JOIN DE PARADE" AND BUY A RADIO SHACK TRS MODEL 100?

Please understand that I am not faulting the editorial work and layout that went into putting the recent issue together; it's simply the premise that somehow those of us who are born anguishers, worriers, and compulsive students of everything will enjoy being served a dish of computer stuff.

At least I am not one of those who wants to stop thinking about the larger issues of bio-regions, etc.

Steven M. Johnson
Carmichael, California

Eco-ethics and rationality

I understand the desire to run a set of articles on a common theme, and I understand the decision to aim your sacred-cow-slaughtering gun at a bovine revered by many of your readers — the environmental move-

ment. But what I don't understand is how you could have been so short on quality material for this effort that you felt obliged to run Richard Watson's rambling and raving "Eco-Ethics," which has my vote as among the lowest-quality thinking and writing ever to appear in **Whole CoEvolutionary Earth Quarterly Review** history. Watson not only seriously misrepresents the deep ecology position in his argument but also makes a muddled case against his straw eco-man.

First of all, the subtitle of the article, "Challenging the Underlying Dogmas of Environmentalism," confuses the issue from the beginning. Deep ecology can hardly be said to be a dogma held by most environmentalists. In fact, the distinction between "environmentalism" (mainstream, anthropocentric, and utilitarian) and "deep ecology" (biocentric and reverent) is fundamental to deep ecologists.

Furthermore, deep ecology (or ecophilosophy, ecosophy, or whatever one wishes to call it) is not so much a clearly defined position (much less a dogma) as it is an attitude toward the world just beginning to be articulated, discussed, and argued over. There are currently many streams of thought converging and mingling in the conceptual watershed of deep ecology. Just because Naess gave a name to the territory doesn't give him exclusive property rights to it. In addition to Naess, we could cite Gary Snyder, Murray Bookchin, and Gregory Bateson (none of whom are strangers to your pages) as among the ablest explorers of this terrain. I suspect any of them would get a hearty laugh out of Watson's dire vision of autocratic eco-philosopher-kings ruling over human society for the good of the biosphere. Authoritarian control — whether it is control of the earth for the "good" of society or control of society for the "good" of the earth — is an ecological travesty.

Beyond these misrepresentations, Watson makes a poor case for his rationalist, individualist position. Contrary to everything Bateson taught us about the immanence of mind in relationships, are we now to believe that only individual organisms are real and that collectivities and ecosystems are mere conceptual fictions? Additionally, Watson seems totally blind to another of Bateson's primary insights — that in the larger pattern of relationships resides the *sacred*. And that the sacred is not only to be conceptualized, but also to be *felt*. Instead, Watson seems unwilling to accept the validity of experience — only rational analysis counts in his evaluation of right and wrong.

In sum, while Watson seems to be strongly versed in the intellectual hairsplitting of the Western philosophical tradition, he does not seem very grounded in the relational and systemic nature of ecological insights nor in the experience of the sacredness of life. I'm surprised to find this kind of thinking in a magazine that has traditionally had so much to offer in these latter areas.

F. Lansing Scott
Portland, Oregon

James Donnelly

Eco-ethics and eco-half-knowledge

. . . Mr. Watson's cautionary observations on the authoritarian potential in environmental ethics are worthy — but premature; as are Stewart's pronouncements of Environmentalism's success. My anger comes from insecurity. Environmental ethics may be ascendent in California, but here in the Midwest, and I fear in the rest of Reagan's America, Mammon is still the dominant religion and development and exploitation are still the mainstream ethics.

Nonetheless, I can suggest some interesting challenges to ecological thinking. For one, some of Stephen J. Gould's ideas as condensed in a recent **NOVA** TV program. He sees no moral messages in Nature and lists four mistaken biases in most people's view of Nature: 1) A sense of progress — that evolution continually moves in the direction of greater complexity and higher intelligence; 2) determinism — that the Universe is orderly and not random; 3) gradualism — that development is slow and steady; 4) adaptionism — the view that everything in Nature fits and has a purpose.

The current furious debate among scientists over the very real problems in evolutionary theory also presents serious challenges to ecological thinking. Sociobiology and punctuationalism are two of the band-aids that have had to be applied in recent years to hold the theory together. In the February issue of **Harper's**, Tom Bethell writes about a group of dedicated truth-seekers known as *cladists*. They are taxonomic scientists who point out that there is not, and may never be, hard scientific proof of the theory of evolution. They say it requires a leap of faith.

Fred Fuller
Williamston, Michigan

Buried in concepts

I think Richard Watson ("Eco-Ethics," March) is so buried in concepts that it'll be a long time before he digs himself out sufficiently in order to present a cogent analysis of anything. The ignorant shall criticize the ignorant (that's all of us) until necessity breaks up the fight. A useful philosophy would define the extent of our collective ignorance for us as nearly as possible, and would then tell us what is *probably* the right way to live, given what we think we know. Maybe your theme should have been "Pompousness as Poison."

Aryt Alasti
Cambridge, Massachusetts

P.S. Anne Herbert's article was a fun read. 'C zone' sounds too bureaucro-clinical for me, though. C zone, G spot, DMZ! Party, party.

Wince

I think you have played fast and loose with the money I spent on a subscription to the **Whole Earth Software Review**. What I'm getting now is a few pages of "review" tucked away in the back of a spaced-out magazine full of psycho-babble about the poisons of computers. I think you have a lot of nerve sending me that crap in lieu of my original purchase. It is evident what happened: what I should have been getting in the **Software Review** has been incorporated into the **Whole Earth Software Catalog**. In my opinion, you are what my Jewish grandmother would call a *shyster*. Please don't send me any more of your crap. California must be infected with some sort of virus that erodes people's morals.

John Figueras
Victor, New York

Groan

I've moved from T.V. to radio and live entertainment. I sure as hell don't want as much computer stuff as given by your **Whole Earth Review**. We're no longer co-evolving.

Ken Redman
Sweet Home, Oregon

Oh, the mail

Four years ago I was in the same boat — merged our two titles, **Interweave** and **Handwoven**. One a poor but much loved little magazine, the other a Commercial Success. Oh, the pain! Oh, the mail!

Just wanted you to know I think your first merged issue is a *good job*. I will miss **CQ**. But you seem to be making the right moves. I wish you luck.

Linda Lejon
Interweave Press
Loveland, Colorado

Taking chances

Stewart's letter about change in the last issue touched me. I think it is very crucial to the success of any long-term project to balance the stability of the structure with new challenges. In our own case, we have solved the problem by creating new programs in addition to the Office for Open Network.

I am sure you are receiving flack from friends and enemies because you are taking chances; the collective ability of your organization to be practical visionaries is something that we have always found very attractive about your project. As someone who usually does not read the computer information in the old **CQ** very closely, I was not sure what was going to happen, but I renewed our subscription under the new "regime" and I am not sorry.

Enclosed is a check for fifty dollars. I had written about a year ago with a proposal that I pay your organization when I am able to make money from using information contained in the **Catalog** or in **CQ** — since then I have, so here is a check. Thank you. It is not a gift or a subscription fee, so I don't expect any other benefits than what I received.

Pat Wagner
Office for Open Network
Denver, Colorado

Don't gloss the details

One of the advantages of the **Whole Earth Review** has been its bias in favor of machines, such as our Kaypro II, which are affordable. This answers one of the problems that many new computer owners have faced. The typical computer magazine has dealt in only what is new and technologically sexy, which inevitably meant IBM PC and Macintosh material. For those of us with CP/M systems, there are few reviews and less advice. It is only the **Whole Earth Review** that has dealt with the entire spectrum of software available.

While we may be fairly strange in having uses and needs for a personal computer, it has made our lives easier, and we have used the old **Software Review**. The recommendation of NEWWORD has helped our local public television station in donations, the recommended Borland TURBO PASCAL has helped my programming and the faint praise given the database programs has saved me a large amount of money by not investing in a new database program.

I think what I am saying is that as far as tools are considered, the computer should be considered. For that is exactly what computers are. My only worry about the combined publications is that the detailed pros and cons that I have looked forward to will be lost in the condensed **Whole Earth Software** updates.

David S. Smyth
New Britain, Connecticut

Another good thing found toxic

Right-of-Way: A Guide to Abandoned Railroads in the U.S. (**WER** #44, p. 67). Many railroad rights-of-way have been saturated with dioxin-contaminated herbicides for years. This is not mentioned in the book but should be, as such routes are akin to toxic waste dumps, though more scenic. The same warning applies to trails through clear-cut forests in the Pacific Northwest.

Aryt Alasti
Cambridge, Massachusetts

Swiss army knife repair

Your review of Swiss army knives in the **Next Whole Earth Catalog** (p. 132) mentions the lifetime warranty that comes with these excellent tools, but not how to take advantage of it. I've used Swiss army knives for about twenty years, and I usually lose them before I damage them badly enough to require repair. But I have sent a few back to the factory. They have always been returned quickly in as-new condition, all broken blades replaced, all other blades sharpened and polished and new red plastic handles. If you ask, they'll even send extra toothpicks and tweezers.

Victorinox Cutlery Company
CH-6438 Ibach-Schwyz
Switzerland

The above is the address of the factory — I've never phoned them, but if you'd like to, their number is 043/214214, could prove interesting. By the way, if you ever see a Victorinox knife with blue handles for sale, snatch it up as a collector's item — only a very limited number were made and they are no longer in production. I saw some of these at the Rod and Gun Club in Wiesbaden while I was in the Army in Germany in 1973, and now I kick myself for not having bought a dozen — or at least one. But that's life — hindsight is always twenty-twenty vision.

I agree wholeheartedly with what you say about Wenger knives — they may be Swiss, but they just don't compare.

Darrin Peter De May
Palm Desert, California

Scapegoating computers

I read with interest the articles in your January '85 issue ("Computers As Poison"). While there was some good criticism of all the hype surrounding computers, I was disappointed at the lack of perspective taken by the authors in the arguments presented against computers themselves.

Virtually every argument in every article against computer technology applies equally well, and often better, to the written word and its supporting technologies. This may seem peculiar at first, but let's examine some of the arguments.

COMPUTERS ISOLATE PEOPLE FROM ONE ANOTHER: The written

word (books, magazines, newspapers, etc.) are much better examples of induced isolation. Just think how often it is difficult to get someone's attention because he/she is in the middle of an engrossing book or article. In fact most libraries, those bastions of the written word, expressly forbid talking. The written word is even more isolating than computers in that it is generally a one-way street: active and immediate response is almost impossible. Why aren't the people who argue against computers on this basis out on the street debating this issue on a one-to-one basis rather than writing articles that will be read (they hope) by tens of thousands of unknown people?

COMPUTERS ALLOW FOR LARGE-SCALE CENTRALIZATION OF GOVERNMENT AND LARGE CORPORATIONS: This is true, but only as a matter of scale. International corporations and far-reaching government authorities both existed long before computers. However, without the written word with which to compile and transfer information, we would have avoided these things entirely.

COMPUTERS CREATE A SEEMING MINDLESS INFATUATION, EVEN OBSESSION, WITH NEW USERS: If you happened to be sitting next to a mild-mannered businessperson on the way to work and he/she spent the whole time reciting decimal ASCII code in a singsong voice, you might quickly agree with this argument. But just think how delighted we are when children do the same thing with the alphabet. The infatuation with word games, even for adults, is quite acceptable; why then the criticism of people temporarily infatuated with computers?

THE INDUSTRIES SURROUNDING COMPUTERS ARE NOT REALLY "CLEAN": Perhaps so, but have you examined the industries which come along with the written word? What about the vast logging activities designed to provide paper? What about the pulp mills, and their horrendous pollution? What about the working conditions in large printing plants, and the environmental effects of the massive distribution of printed matter through conventional transportation systems? What about the truly vast amount of outdated or unwanted printed matter that we toss in the trash? Where does it go? And talking of the low-rent architecture which is beginning to surround the computer industry, I don't see anyone nominating the typical print shop or truck depot for any awards.

COMPUTERS ALIENATE US FROM THE NATURAL WORLD: Even if this is true, the written word has done a much better job. Most of the people I have met who consider themselves knowledgeable about the natural world spend more time reading about it than observing it firsthand. More disturbing to me is how deeply rooted words have become as a screen or filter on reality. Even after many days alone in the wilderness, I sometimes find myself thinking about what I am experiencing in terms of words and even sentences. Has this ever happened to you? Don't you find it just a little unsettling?

COMPUTERS ARE BAD FOR US IN MANY OTHER WAYS: Perhaps so, but, if you are willing to think about it, so is the written word. In fact many of the problems blamed on computers would not exist at all without the written word.

Are we all so deeply entrenched in the written word that we have become like the characters in E.M. Forster's story, whose lives were so totally supported by the "machine" that they could not comprehend its stopping? The idea of the written word just "stopping" seems absurd, but suppose for a moment that it could. How long would it take for the fabric of our society to fall apart? How many of us would survive the process?

I hope that this letter is not mistaken as support of computers or criticism of the written word. I merely wish to broaden the perspective from which we view computers, and to help answer Stewart Brand's question about the "real price" of this technology. If no better arguments are forthcoming, one can conclude that, in a true historic and holistic sense, we have already paid the price. What we face now is simply a small surcharge.

W. Scott Morris
Santa Fe, New Mexico

Truth in programming

I write programs, and they work. How proud I am of that last statement. Writing programs is not like writing an English paper, or even a magazine article; if you have not programmed correctly, the computer itself (more often than not) will "tell" you. Yes, there are aesthetic things about programming (this involves such things as clarity, "modularity," and "information hiding"), but doing programming is something like building an engine; if it doesn't go, you know you didn't do it right. . . . Would that the rest of life could be judged so clearly.

Terry Ritter
Austin, Texas

New life or copy of existing life?

. . . These days hardly anybody oohs and aaahs about such profound technologies as language, domestic animals and plants, or even more modern ones such as cities. These have been domesticated, integrated into the psyche to such an extent that nobody notices them anymore except as scholarly topics. Over time the same fate will befall machines. When they get to the point of having no moving parts, and any engineer will tell you that is the ultimate end of machine evolution, then machines will also become as well-integrated into the psyche as speaking and poodles already are. You and I will of course be safely dead by then . . .

If it is possible for a machine to have no moving parts, then the obvious corollary is life with no moving parts. Care to place any bets on if it will be new life or a copy of existing life? How good does a copy have to be before it is the same as the real thing? These are questions yuppies of the neo-Luddite persuasion do not think to ask and yuppies of the technophilic kind may have to provide some answers for just to keep their jobs. Your current position, having to be nice to both in the pages of one magazine must be quite entrancing.

Sorry about the state of the copy. It is the last thing I will ever do on a typewriter. I have seen XYWRITE II PLUS, brother, and I believe.

Valdis A. Augstkalns
Vienna, West Virginia

Gossip

STEWART BRAND: Back-of-the-book here is now called "Gate Five Road" because that's our street in Sausalito, California. All magazines come from somewhere, though most conceal that and I think sacrifice character in the concealing. There's nothing special about Sausalito. Where we are is a scuzzy waterfront clinging to its scuzziness in an upscale world; it's a real neighborhood, with modest office rents in its older buildings, comfortably poised between city and country without being a suburb. If the ***Whole Earth Review*** *has a flavor, a scent, you could call it "Gate Five Road." Or, if you prefer, "low tide."*

We're no longer calling this section "Business," in part to avoid confusion with the new section in the magazine, "Small Business." One of the reasons the U.S. economy is booming these days is a creative surge in small business that continued building right through the recent severe recession. Whether profit or nonprofit (as we are), there's no more direct method of good-doing and cultural innovation than entrepreneuring. Witness the cultural news in "Keep Designing" (p. 44) and "Anarchy that Works" (p. 36). We've covered tools for business since our beginning in 1968 with the original ***Whole Earth Catalog****, but haphazardly. A "Small Business" section can focus the effort, make better use of much of our computer coverage, maybe someday accumulate toward a book.*

If you're snorting contemptuously right now, you're probably one of our customers who got royally mistreated this Christmas by our special "$19.09" deal on the ***Whole Earth Review*** *plus a* ***Whole Earth Software Catalog*** *"mailed at our expense in September . . . it should reach you before it's in many stores." What a debacle. Most customers got their magazines OK, but the books were delayed for months in many cases. It turned out that our subscription-handler, Publisher's Aide in San Diego, was ill-equipped to manage a special deal, and by the time we found out, a lot of damage had been done. The responsibility is ours, is mine. I apologize. There is no excuse for disservice like that.*

In the future we will handle any special mail-order deals direct from our offices. And all complaints on any subject having to do with subscriptions should be addressed direct to us: ***Whole Earth Review****, 27 Gate Five Road, Sausalito, CA 94965. 415/332-1716.*

The brunt of the $19.09 complaints was taken by Dick Fugett, General Purpose Clerk. Next week he and Cindy Craig, who handles our distribution, are off to Nicaragua for a couple weeks of personal agricultural aid to the Sandinistas — picking cotton in 100-degree heat and peasant living. He commented, "I'll feel safer among the contras than I did among the subscribers this Christmas who were after my head as a substitute for their missing ***Whole Earth Software Catalog****."*

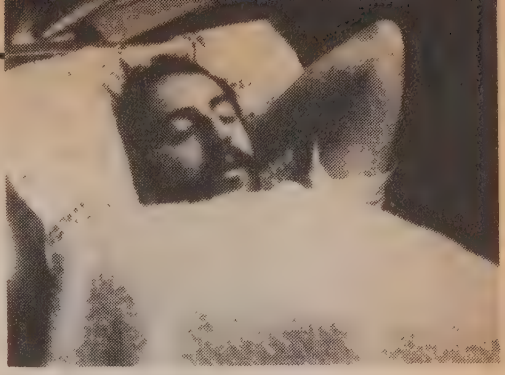
Hmm. The always-interesting magazine ***Soldier of Fortune*** *has been fielding staff and subscribers among the contras. Maybe* ***Whole Earth Review*** *should muster a contra-contra brigade and challenge the* ***Soldier of Fortune*** *mercenaries to a tournament of sudden-death volleyball on the Washington, D.C., mall, and leave the threatened schools and health clinics and cotton fields of Rinkydinkaragua out of it. The U.S. is so fat and sassy and spoiling for war these days, a modest civil war amongst ourselves might relieve the tension and be a courtesy. Let the other nations come to our "aid" for a change. Dibbies on the Argentine Air Force.*

Of course, a glance at our finances may make you wonder if ***Whole Earth Review*** *can afford a Defense Department (a glance at U.S. finances has a similar effect). Not to worry (concern is permissible). A number of long-brewing projects are coming to the point of producing revenue this spring:* ***News That Stayed News: Ten Years of CoEvolution Quarterly*** *(due in the fall from North Point Press); the "Whole Earth Review" column syndicated nationally in newspapers by United Features; a second edition of the* ***Whole Earth Software Catalog*** *(also fall '85); and something new . . .*

We're calling it "The WELL" — for Whole Earth 'Lectronic Link. It's a joint venture we've formed with NETI — Network Technologies International of Ann Arbor, Michigan — to provide the first local computer telecommunications and teleconference network of its kind in the world. Local in this case means the San Francisco Bay Area — the 415, 408, and (perhaps) 707 area codes, from Sonoma County to Santa Cruz. At very low cost ($8/month, $2/hour, plus only $1/hour for phone charges) users in the area can get service including electronic mail, asynchronous teleconferences ranging from users' groups for the various brands of computers to gardening and local politics, an online updated ***Whole Earth Software Catalog****, and emerging etc. The device bearing all this is NETI's VAX minicomputer, which permits 40 simultaneous callers, with NETI's Picospan conferencing and billing software (billing is direct to your VISA or MasterCard, eventually possibly to your phone number). Matthew McClure is in charge of the project.*

Because The WELL is a brand-new complex system, users for the first several months should consider themselves pioneers. They will be enduring frustrations and constant changes and half-met expectations. They will also be helping design the system as they use it. The earliest that the general public will be able to get on to help with this pioneering is late April, 1985. Phone our offices (415/332-1716) for the number to call with your computer and for the schedule of services coming available. Don't expect a lot for a while.

Keeping a godfatherly eye on all this from a slight distance is Whole Earth's founding computer maven and telecommunications adept, Art Kleiner. Art violently interrupted his sallying forth on a book project two years ago to come back and save our ass by putting together the initial team for the ***Whole Earth Software Catalog*** *and* ***Review****. Mission accomplished, he's back in sally-forth mode, freelance writing, researching his book on the history of magazines (the history of marketing as a culture-twister), and*



Editor emeritus Art Kleiner, hero of two *Next Whole Earth Catalog* productions, of the *Whole Earth Software Catalog* project, and of numerous *CoEvolutions*, now at large as free-lancer.

continuing as Whole Earth's Telecommunications domain editor and occasional project keeper — such as editing the best-of- **CoEvolution** *book.*

Six other organisms recently left the organization. The Ecosphere on the cover is an understudy for the original, which paid the price for life in the fast lane of cover modeling. It's no cinch to light a transparent object for photographing against a black background. Don Ryan had the whole set-up at his home for the extended fiddling required. The bright lights showed up dust on the Ecosphere; he reached across to dust it; it rolled — oh, no! — away from him, off the edge, and smashed into a furnace grate on the floor, the whole ecosystem gone down the grate in an instant, only drying shards of glass left behind.

Those six shrimp in their perfect world. What a sudden plunge from their heaven, their eternity, to the fiery furnace, their real fragility as total as their apparent safety. Or is that a misinterpretation of life in the sphere? Maybe their last shrimp thoughts were, "Free at last! . . ."

Whole Earth Review Update

*KEVIN KELLY: Last issue we shamefully mixed up some telephone numbers. The phone numbers of Whole Earth Access and Computer Literacy were reversed. They are listed correctly below. The computer bulletin board number for Dave Hughes was also inaccurate; the correct number is 303/632-3391. Last issue we reviewed the Aerobie flying ring (***WER** *#45, p. 77) with the offer of its inventor, Alan Adler, to pay $1,000 to the first person breaking the Guinness World Record for the longest distance of a hand-thrown object. He reports that this record was broken in San Francisco's Golden Gate Park by Scott Zimmerman, who threw an Aerobie 349 yards — three and a half football fields.*

"Or Whole Earth Access"

That phrase under access information in the **Whole Earth Review** means you can mail order the item from the Whole Earth Access store. *Do not send orders for books to* **Whole Earth Review**. Send orders to:

Whole Earth Access
2990 Seventh Street
Berkeley, CA 94710
(415) 845-3000

Rush orders U.P.S. (Continental U.S.): 40 cents additional charge per book.

"Or Computer Literacy"

That phrase means you can order these items from Computer Literacy, a bookstore specializing in computer related books.

Send orders to:

Computer Literacy Bookshop
520 Lawrence Expressway
Suite 310
Sunnyvale, CA 94086
(408) 730-9957

Add $1.50 for one or two books. Orders sent by U.P.S.

For Both "Whole Earth Access" and "Computer Literacy"

Foreign orders: (surface mail): Add $3.50 per order for insurance if desired. Pay only in U.S. funds drawn on a U.S. bank.

California delivery: Add 6% tax (BART counties add 6½%).

VISA/MasterCard orders accepted

WHOLE EARTH REVIEW Ordering Information

Subscriptions to **Whole Earth Review** are $18 for one year (6 issues) and $33 for two years (12 issues). Foreign rates are $22 for one year and $41 for two years. Send your order with payment to: **Whole Earth Review**, Box 27956, San Diego, CA 92128. For VISA or MasterCard orders, call 800/321-3333; in California call 800/354-8400.

Newsstand Consultants: **David Maisel, Howard Eisenberg.**
Mailing Services: **American Press, Columbia, Missouri; Publishers Aide, San Diego, California.**
Mailing List Brokers: **Pacific Lists, Mill Valley, California; Triplex Direct Marketing Corporation, San Rafael, California (fulfillment).**
Stats and Halftones: **Marinstat, Mill Valley, California.**
Printing: **Progressive Graphics, Oregon, Illinois (film work); American Press, Columbia, Missouri.**

WHOLE EARTH Review

Stewart Brand
Publisher
Kevin Kelly
Editor
Andrea Sharp
Office Manager
David Cohn
Business Manager
Richard Nilsen
Assistant Editor
Jim Stockford
Assistant Editor

Kathleen O'Neill
Design
Don Ryan
Camera, Pasteup, Design
James Donnelly
Typesetting, Pasteup
Marli Krushkhova
Typesetting, Pasteup
Jay Kinney
Pasteup

Susan Erkel Ryan
Production Manager, Mailing List
Ted Schultz
Copy Editor, Pasteup, Flat Proofer
Hank Roberts
Proofreader

Matthew McClure
Research Director
Lyn Gray
Software Librarian
Cliff Figallo
Data Base & Hardware Manager

Dick Fugett
General Purpose Clerk
David Burnor
Subscriptions, Librarian
Cindy Craig
Distribution

Larry Gonick
Illustrations

J. Baldwin
Soft Tech and Nomadics
Richard Nilsen, Peter Warshall
Land Use
Robert Horvitz
Art
Sheila Benson
Film
Planetree Health Resource Center
Medical

•

POINT FOUNDATION
Paul Hawken, Huey Johnson, Doug Carlston, Stewart Brand
Irmine Steltzner,
Secretary
Joe Kane
Whole Earth Chronicle Column

Whole Earth Threefold Pyramid Scheme

We'd like more subscribers. It's the same amount of work to put out a magazine for 60,000 readers as it is for 30,000. Those extra subscribers would enable us to increase the depth of our research, to attract wonderful writers and illustrators, and to blaze into new territories — you'd get a better magazine. We could keep our sub price level, too. The absolute best promoters of **Whole Earth Review** are its readers. The best description of **WER** is the thing itself. Here's the plan: Send us the names of three friends that you think are ripe for **Whole Earth Review**. We'll send them a sample copy, **gratis**. When they subscribe they put three names of their friends on the list and the usual perpetual motion arithmetic takes place. Everybody wins. Send your friends' names to 27 Gate Five Road, Sausalito, CA 94965. Put a big "FC46" on the envelope so we know what it's for.

Whole Earth Review

November and December 1984

Income			
Subscriptions & Renewals	67,892	Mailing List	1,704
Direct Distribution	12,962	Contributions	440
National Newsstand	6,732	Miscellaneous	2,901
Back Issues	448		
Total Income			**93,079**
Expenses			
Freight (Distribution)	808	Payroll Taxes/Benefits	6,011
National Newsstand (Freight, Consulting)	6,779	Equipment Rent & Maintenance	811
Printing	32,948	Supplies (Office, Production, Computer, Research)	3,797
Mailing List	1,300	Auto, Travel	423
Subscription Promotion & Fulfillment	22,419	Postage	2,096
Writers & Contributors	5,455	Rent & Building Maintenance	11,801
Salary — Editorial	23,487	Telephone & Networks	3,619
Salary — Research	15,788	Utilities	810
Salary — Production	22,929	Equipment Purchase	1,156
Salary — Office	12,882	Miscellaneous Operating Expenses	4,535
Salary — Circulation	8,506		
Total Expenses			**188,360**
Profit/Loss			**−95,281**

Point Project Reports:

November & December 1984

Whole Earth Software Catalog	
Income	
Software Catalog/ Premiums, Sales	26,248
Total Income	26,248
Expenses	
Software Catalog/fulfillment	13,828
Printing Expense Repay	108
Total Expenses	13,936
Profit/Loss	12,312
Chronicle Columns/Royalties	
Income	5,860
Expenses	4,524
Profit/Loss	1,336
Other Products	
Income	123
Expenses	197
Profit/Loss	−74
Overall Point Profit/Loss	
Income	125,310
Expenses	207,017
Profit/Loss	−81,707

Thank you

Maniacal Subscribers ($1000)

Peter C. Akwai
Frankfurt am Main, West Germany
Denise & Norman Alm
Inchture, Perthshire Scotland
Bamboo Flying Water
New York, New York
Donna Boyd & Gene Combs
Lexington, Kentucky
Marlon Brando
Beverly Hills, California
Stephen & Julie Briggs
Moretown, Vermont
Robert Dunn
Sparks, Nevada
Allan Hogle
Gualala, California
Michael O. Johnson
Oakton, Virginia
James E. Lovelock
Launceston, Cornwall England
Douglas Martin
Sausalito, California
Norman Pease
Orinda, California
Plant Just One Tree
Love, Ma
Katherine W. Tremaine
Santa Barbara, California
Greg & Pat Williams
Gravel Switch, Kentucky
Ye Olde Toothe Fairye
Birmingham, Alabama
and 9 anonymae

Sustaining Subscribers ($100)

Tremaine Arkley
Independence, Oregon
Timothy Bass
Cambridge, Massachusetts
Peter Bickford
Lebanon, New Jersey
Mrs. Arthur Brand
Rockford, Illinois
Mike Bunis
Pompano Beach, Florida
In Memory of
Richard Chernick
Asbury, New Jersey
Barbara Clensmer
Dorchester, Massachusetts
John Gilbert
Chitina, Alaska
Pat Grealy
Pasadena, Texas
Joseph F. Hart
Niagara Falls, New York
Arthur Hayssen
Sebastopol, California
Larry Holmgren
Long Beach, California
David Ilg
Fremont, California
J.L. Kirk
Fairfax, Virginia
B. Kliban
San Anselmo, California
Howard Landman & Gelly Archibald
Hillsboro, Oregon
William R. MacKaye
Washington, DC
In Remembrance of
Robert Plank
Cleveland Heights, Ohio
Roy Rappaport,
Ann Arbor, Michigan
A.E. Roach II
Washington, D.C.
Van Rozay
Canyon, California
Joe Weisman
San Francisco, California
Richard R. Wilk
Belize City, Belize
T. Winsberg
Boynton Beach, Florida

Retaining Subscribers ($40)

Marc & Tamara Bernstein
Duvall, Washington
J. Walter Retan, M.D.
Birmingham, Alabama

The Retaining Subscriber list includes only those who became retainers since the last issue, as of 1/30/85. Retaining and Sustaining Subscribers get your magazines in an envelope, delivered first class or airmail, for one year. Maniacal Subscribers get your magazines in an envelope, first class or airmail, for the rest of your life (or ours, whichever comes first). For all three, we gratefully publish your name and town in the magazine (unless you say not to). All contributions are tax-deductible because we're a nonprofit foundation.

How to submit things to

WHOLE EARTH Review

1. Send them. Address them to Whole Earth Review, Attention: Assistant Editor, 27 Gate Five Road, Sausalito, CA 94965, and drop them in the mail. We are sitting here, bored as anyone else, reading all the mail, hoping some of it will be good.

What's good? New, not read a hundred times before, not an imitation of old WER articles, often a personal passionate statement. Articles that sound like articles are often dead. Consider yourself to be writing a letter to an intelligent, uninformed friend about something that is interesting/important to you. We often print things that everyone, including the author, thought were too odd to be printed anywhere. Remember that we print all lengths from a paragraph to many pages, so don't puff a good, short idea into four tedious pages. And please don't try to please us by creating something you think we'll like. Being hustled is boring. We'd rather print true love — yours for your subject. All things are possible and may be printed. We have no editorial policy for or against any subject matter.

2. Enclose a stamped, self-addressed envelope. That's a courtesy. You are much better at writing your address than we — all that practice. If you don't address and stamp an envelope for us to reply or return things in, you're asking someone here to be your secretary. If we all did our own clerical work, there would be no secretaries.

If you are in another country, don't send foreign stamps. Go to your post office and buy an "International Response Coupon" and send it. We take the Coupon to our post office and redeem it for U.S. postage.

Submissions and reviews can be sent to us electronically on the following networks:

CompuServe: enter our online conference by typing "GO WEC" and either leave a message or upload your file to the appropriate data library section. Send E-mail to James Stockford, 75126,3525.

MCI Mail: send messages to James Stockford.

The Source: send E-mail to BCK227 or PS0008.

The EIES network: go to conference 1031 or message James Stockford (829).

3. Keep a copy. We are careful and good but not perfect. You should never send anyone the only copy of anything.

4. Be patient. We sometimes reply on submissions the day we get them, but you shouldn't get worried about no reply for about two months. Sometimes we have to show things to our far-flung, part-time editors, and that can take even longer. On the other hand, don't wait a year to tell us you sent something and didn't get an answer. Many manuscripts have flowed over the desk in that time, and it will be hard to remember what happened to yours or if we ever saw it.

5. Be legible and put your name and address on the first page of the manuscript. Those are all the rules of form we have. It's helpful to type if you have a typewriter (please double-space), but handwriting is fine if it's very neat. The name and address are so you don't become a mystery person if your envelope gets separated from your manuscript.

6. Avoid query letters. Query letters are what writer's magazines tell you to send editors to find out if they are interested in a subject. We're less interested in the subject than in what you do with it. If at all possible, please send us the manuscript.

Exception: You have found an interesting and complex subject that would take a lot of time and work to write about. If you want to know if we might be interested before proceeding, write a detailed, fact-filled letter about what you know and what you want to do, and send samples of your writing. The details and the samples might make it possible for us to make an intelligent reply. But in every case, it's better to send a manuscript than a query. (Please note: WER doesn't have a budget for "kill-fees," so all submissions are on spec.)

7. Notes on Reviews. Write to that smart ignorant friend, introduce the book or whatever and get out of the way. A paragraph should usually be enough. In book reviews, the quotes are the thing — ideally they should be immediately useful and contain the soul of the book. You don't have to type the quotes, just note page numbers. It's not necessary to analyze the book; just say exactly why you love it. It can take a long time to get a final decision from us on a book review. We don't decide about printing it until we've seen the book, which we order from the publisher, who may take a couple of months to send it. (Don't you send the book unless you don't want it back; it's hard enough to deal with returning manuscripts.) If we decide not to use your review, you won't hear further from us about it. If we do use it, you'll receive a check and tear sheet upon publication.

We like to review books of all ages, especially unheard of wonders that got lost in some shuffle.

8. Photographs for articles. The best by far for us to work with are black and white prints (either matte or glossy finish) that are 5x7 inches or 8x10. We can make do with 3x5. Never send your negatives unless we ask for them.

9. Money and Rights. We pay for everything we use upon publication. $15 for letters, $30 for photos, and $100 to $500 for articles. The article money varies depending on length, wonderfulness, and provision of illustrations. Item, book, and software reviews work like this — you get $20 for being the first to suggest an item and $20 for reviewing it. If you do both, you get $40.

WER buys first-use rights on material, though we reserve the option to reprint things in the Whole Earth Catalogs or our "Whole Earth" column. (If we reprint you'll receive another fee.) Contributors retain all other rights.

10. Will you still love us if we reject your offering? Editing is arbitrary. It's hard to explain why any given piece is rejected. To understand that, picture yourself leafing through a magazine, not liking an article, and suddenly being confronted by the author who wants you to explain why you didn't like the article. A cogent explanation would be somewhere between awkward and impossible and definitely time consuming. Our rejection notes tend to be short. It has to be that way if we're to have time to read all the mail carefully. If we turn down your piece, we may not convey in the note that we are grateful for all mail, that mail is all we've got, that the magazine would not exist if it weren't for mail from strangers who are good enough to share the wonders of their world with us.

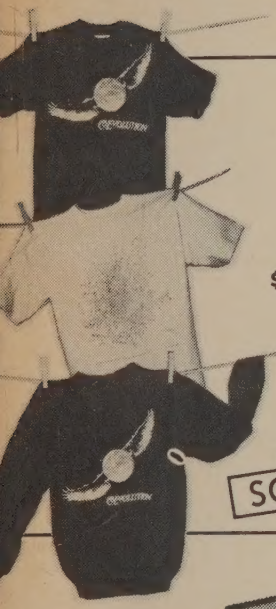
We're waiting to hear from you.

—Anne Herbert
for the Whole Earth Review

P.S. Do not address your submissions to me. Send them to the Assistant Editor.

OTHER PRODUCTS

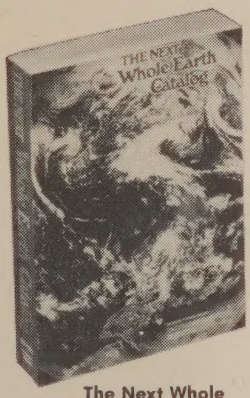
Whole Earth Access Company, in Berkeley, not only handles the mail order fulfillment of books reviewed in *WER*, but also handles the "other products" that we used to sell; yes, even CQ T-shirts.



CoEvolution T-shirt
$8 XS (youth's 14-16), S (34-36), M (38-40), L (42-44)

Bluegenes T-shirt
$10 S (34-36), M (38-40), L (42-44), XL (46-48)

CoEvolution Sweatshirt
$16 [illegible]
SOLD OUT

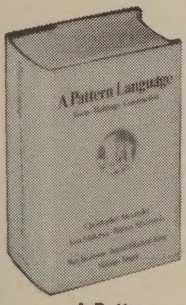


The Next Whole Earth Catalog
2nd Edition (1981)
$16 ppd.

CoEvolution Quarterly Back Issues
$3.50 Each
$10 for 4
Issues 14-26, 28-43
Complete Collection of all 29 available issues $30.00

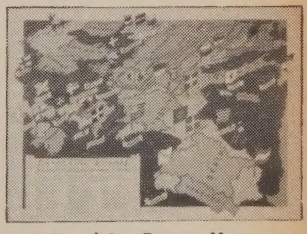
World Biogeographical Provinces Map
$5 ppd.
22" x 39" (mailed in tube)

Paul Hawken's
The Next Economy
$15.50 ppd.
also available in mass paperback $4.95 ppd.



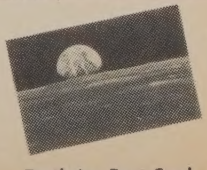
A Pattern Language
(Towns, Buildings, Construction)
$45 ppd.

One Million Galaxies Map
$6 continental U.S. ppd.
(elsewhere $7.50)
39" x 47" (mailed in tube)



Devolving Europe Map
$3 ppd.
11" x 15" full-color
(mailed in tube)

Whole Earth Post Cards
$3.50 ppd. package of ten



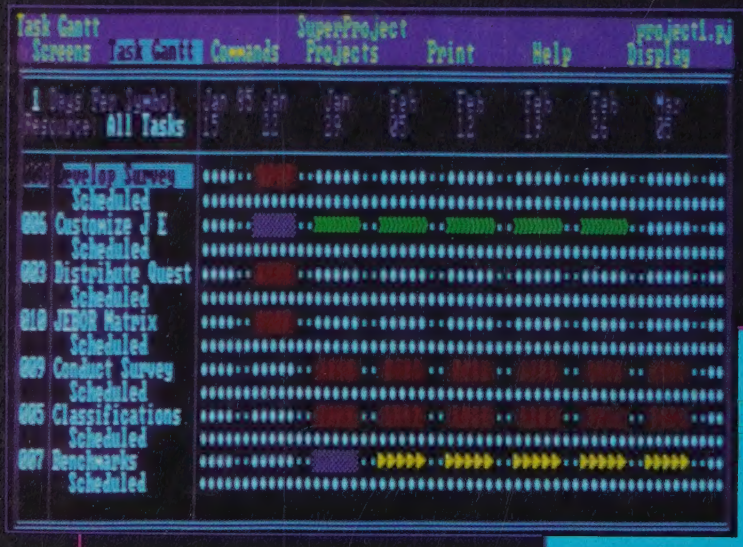
Earthrise Post Card
$3.50 ppd. package of ten

When ordering specify quantity and size (where applicable).
Please include $2 per order for postage and handling.
California residents include 6% tax on all orders.
Send all orders to:

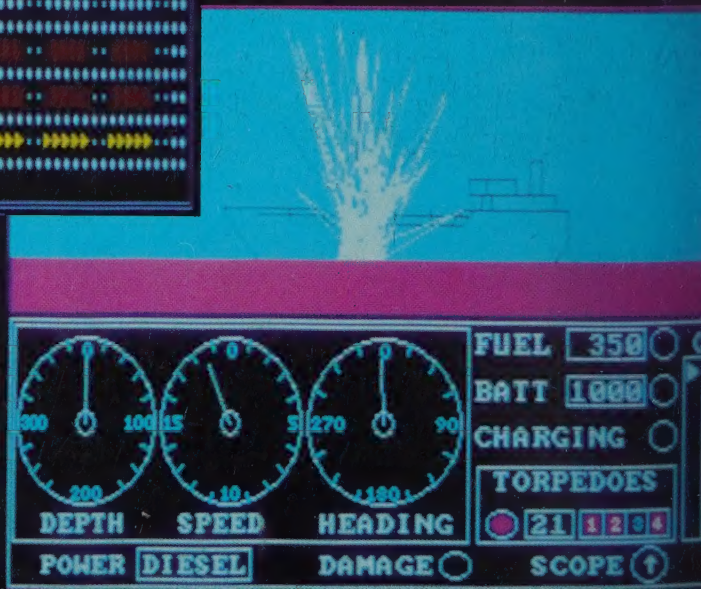
WHOLE EARTH ACCESS COMPANY
2990 Seventh Street
Berkeley, CA 94710

Matt Herron, Black Star

At the "Hackers' Conference" (pg. 44), participants helped with dishwashing to keep the costs down. The first volunteer was Steve Wozniak (right), designer of the Apple computer, who's worth $70-$100 million these days. Next to him in blue, Andy Hertzfeld, one of the designers of the Conference (as well as the Macintosh computer), worth fewer millions. Among their hacker peers their design ingenuity and generosity counted far more than wealth or fame.



In kaleidoscopic color if you want it, SUPERPROJECT ($395 list/$200 street) is one of the exemplary project managers surveyed in this issue (pg. 94). Project managers are invaluable for planning, budgeting and scheduling tasks of any complexity, as well as keeping control of them once they're under way.



GATO ($40 list; $27 street) is a truly taxing submarine simulation game for Apple and IBM PC computers. As commander of a "Gato"-class sub, circa 1943, you must master your vessel's realistic resources as well as the nuances of navigation and tactics to take your toll of the Japanese Imperial Fleet (see p. 84). The program compares favorably with the renowned FLIGHT SIMULATOR.